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DOMESTIC ENGINEERING

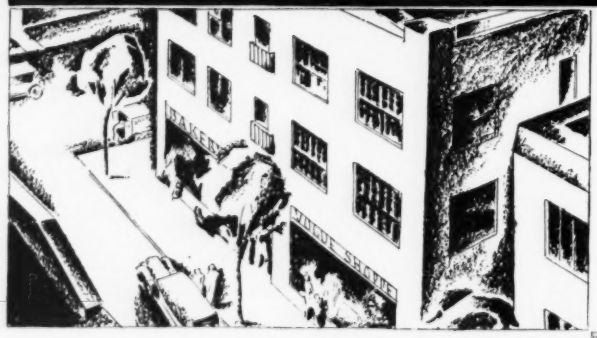
Plumbing & Heating Contracting and Merchandising

New demands for home comfort make big market

You will want to read *Heating in Residences and Small Structures*, and *Gas Enters House Cooling and Air Conditioning Field*, in this issue

SEPTEMBER 19, 1931

KEWANEE STEEL BOILERS

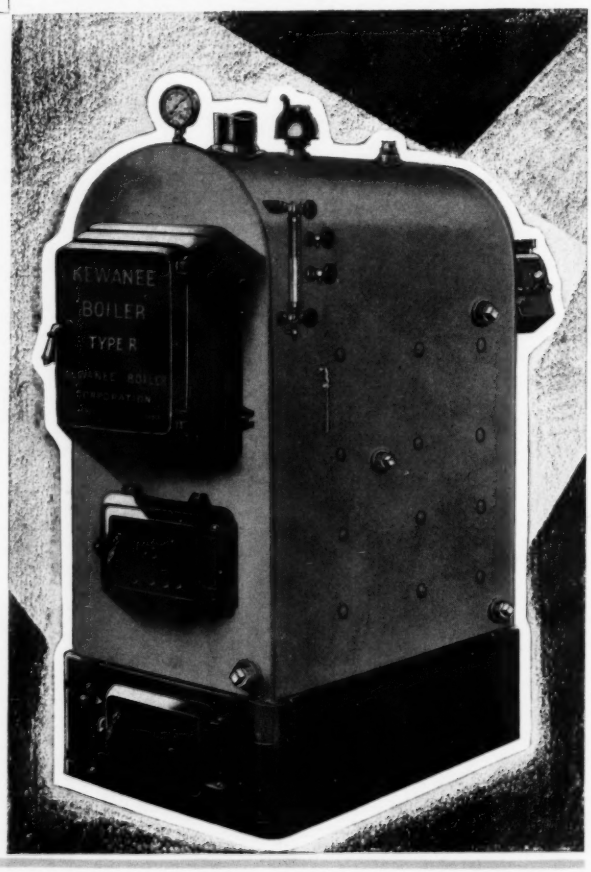


What do we mean when we say *"Experience proves it costs less to own a Kewanee?"* Simply this: That the experience of many thousands of owners proves a Kewanee is the best boiler investment.

We mean that the extra years of life insured by Kewanee's construction *reduce the "per year" upkeep cost.* We mean that each Kewanee type and size is so correctly designed and so properly proportioned as to effect a *worth-while fuel saving every year of the boiler's life.*

More buildings are heated with Kewanee Boilers than by all other makes of steel boilers. That great preference for Kewanee is the best testimonial to its low heating cost.

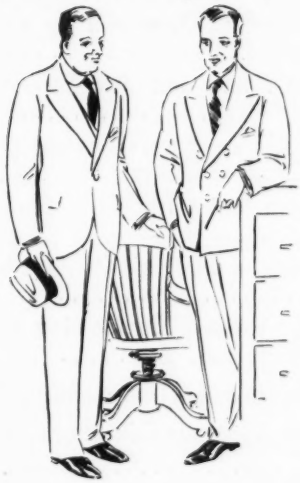
For those who want Kewanee dependability and economy for smaller buildings Type "R" fills a long felt need. For Coal, Oil or Gas. In sizes to heat 370 square feet of radiation and up.



KEWANEE BOILER CORPORATION
division of American Radiator & Standard Sanitary Corporation
KEWANEE, ILLINOIS *Branches in Principal Cities*
MEMBER OF STEEL HEATING BOILER INSTITUTE

Experience Proves— It Costs Less to OWN a KEWANEE

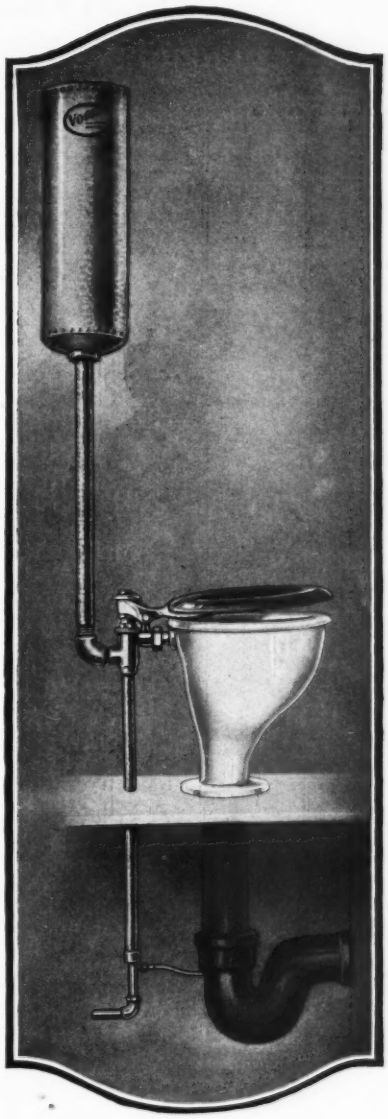
I left it up to my plumber ... and he said naturally he "*would install a Vogel*"



When it comes to installing frost-proof closets there is very little question among plumbers—they agree that **VOGEL** is *the* outfit. They know these closets, and the service they give, and never hesitate to recommend them.

VOGEL is a profitable line for plumbers to handle.

JOSEPH A. VOGEL COMPANY
Wilmington, Del. St. Louis, Mo.



Vogel Number One Frost-Proof Closet—Install it in any place exposed to freezing temperatures. More than 500,000 in use and giving satisfaction.

See inside back page for VOGEL advertisement on No. 10 and 10-A Closet Combinations

Literature for your customers, imprinted with your name and address, sent to plumbers requesting it.

VOGEL PATENTED *Frost-Proof* **PRODUCTS**

DOMESTIC ENGINEERING

Plumbing & Heating Contracting and Merchandising

Established 1889

Vol. 136, No. 6 | September 19, 1931 | Whole No. 1952

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Comparative tests . . . Do they show how good the new thing is or how poor the old one was?

If you want to establish confidence in your automobile or radio or heating system just compare it with one of an earlier vintage. It may give you a lot of satisfaction but it doesn't *prove anything* except the shortcomings of the older models.

If you must judge from comparative tests, make sure the contestants are at least fairly evenly matched in every respect. This is particularly necessary in considering heating system performance. No less than 45 separate factors must be checked before any safe conclusion can be reached. We have prepared a "Check-List" of these 45 variable factors and have offered to send a copy gratis to anybody interested. Hundreds of copies of the "Check-List" have been distributed as a result of this series of advertisements and scores of leading engineers have commented favorably on it. If you have not already requested your copy, do so at once as the supply will soon be exhausted.

Heating System Control

The steam consumption of heating systems is very definitely related to the method of controlling the system.

Engineers, architects and heating contractors will find the control methods offered by Warren Webster & Company to be of vital interest. A request for further details will bring a Webster steam heating specialist to discuss with you this vitally important subject of heating system control.

A Heating System for Every Need and Every Purpose

Heating requirements vary so widely that no one type of heating system can be expected to provide the greatest return on the dollar invested in the heating equipment for all types and sizes of buildings. Realizing this, Warren Webster & Company have consistently developed an entire group of Webster Systems of steam heating to provide *a heating system for every need and every purpose.*

Webster MODERATOR System provides "Controlled - by - the-Weather" heating and makes possible new methods of operation and new standards of economy. Can be applied to any existing steam heating system of sufficient size.

IMPROVED Webster Vacuum System provides distribution balanced from the start—the supply of steam to each radiator is so equalized that all radiators get steam at the same time and in substantially the same proportion, regardless of distance from the boiler. May be supplemented by HYLO Vacuum Variator, permitting manual control by building operator. Applicable to new or existing installations.

IMPROVED Type "R" System for residences and larger buildings as well, combines advantages of steam heating with advantages of hot water, but without limitations. Meets fully the operating requirements of newer fuels, newer types of radiation and newer thermostatic controls. Also provides better-than-ever heating service with old radiation and old controls.

Full details of any or all of these systems will be furnished on request.

Warren Webster & Company, Camden, N.J.
Pioneers of the Vacuum System of Steam Heating
Branches in 60 Principal U. S. Cities
Darling Bros., Ltd., Montreal, Canada

-since 1888
Webster
Systems of Steam Heating

a I 59a

Between Ourselves

THE domestic market for heating equipment is constantly becoming larger, what with the large amount of new equipment that is being placed on the market. Air conditioning, too, is now attracting the attention of home owners. In this issue Harold L. Alt and Eugene D. Milener tell about these developments in two separate articles.

Your Editor

"HEATING in Residences and Small Buildings" is the title of Mr. Alt's article. It is the beginning of a new and important work on heating, in the form of a comprehensive survey of fundamentals and new developments. The need for it is indicated in his own words: "Within the last few years, an enormous amount of newly designed heating equipment has been put on the market." All of these advancements must be fitted properly into heating practice by those who install them, and contractors will find this material of daily value.

RIGHT now the heating season is approaching its peak period and, consequently, you will want to make a careful study of the material in the AUTOMATIC HEAT section. One of the articles in this section describes how an office building was able to increase its rented space with an oil burner installation. Another is entitled "Gas — How One Dealer Has Created a $150,000 Business Beyond the City Mains." A third article is entitled "Timing a Boiler Installation as You Would a Tee Shot," while the fourth is called "Surveys and Service for Stokers."

THE whole business world has swung in behind the discovery that it's one thing to hear a thing, and another to see it. The old-time sales meeting was made up of "talks." The modern sales meeting is as apt to be cast in the form of a three-act play, with plot, climax, surprise—and sometimes even love interest. Nor has this practice of using the dramatic form to present sales ideas limited itself to manufacturers. In this issue we carry the full script of a sales sketch worked out by a contracting organization. Fittingly it is entitled: "A Play from Life." It is the story of the securing of a contract over an obstacle—personal friendship—which the salesman neutralizes by having his prospect put a cash preference value on that relationship. It's a meaty script, and will repay close study for the ideas it contains on personal selling.

"YOUR letter, also chart, reached me several days ago and I want to thank you very much for this and other valuable helps you have so kindly given me." —O. H. Kreuger, plumbing and heating contractor, Fort Collins, Colo.

THE article by Mr. Milener, referred to above, starts on page 41. It is the second part of a paper, the first installment of which appeared in our issue of August 8, under the title, "Gas Enters House Cooling and Air Conditioning Field." This article told of the experimental work that is now being done in the matter of cooling homes with gas. The experiments are being conducted in Dallas, Tex., Chicago and New York. In this concluding part, Mr. Milener gives the details of the tests in these three houses where gas is being used for air conditioning. The development is of vast importance to the heating contractor, in view of the new co-operative policy of the gas companies.

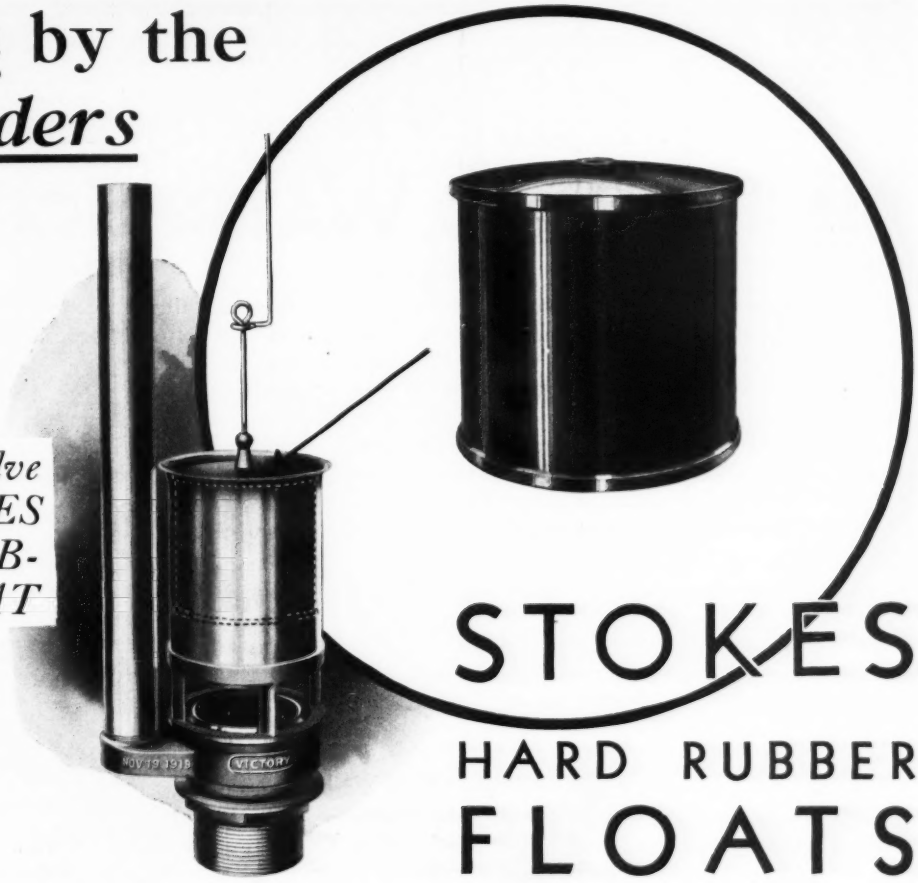
STRANGE as it may seem, the generally hot summer that we have just gone through has opened the door to some profitable business for the plumbing contractor. We refer to the thousands of lawns upon which their owners have spent much money, which have been ruined for lack of proper and regular watering. Now, when home owners are looking disconsolately at cracked and burned lawns, is the time to talk sprinkler systems for systematic, regular, controlled watering. Read the article commencing on page 37—it tells the experience of a contractor who is selling and making actual installations.

TWO recent developments in the gas industry—the rapid extension of natural gas pipe lines and the newly adopted merchandising policy of the American Gas Association—make it more important than ever for the heating contractor to keep abreast of the newest selling methods for gas appliances. In view of this, our next issue will contain the experiences of another contractor dealer who has been successful in selling gas equipment.

The man who is so busy that he does not have time to read his trade paper is like the man who was so busy chopping wood that he did not have time to sharpen his axe.

Chosen by the *Leaders*

A Curtin Valve with STOKES HARD RUBBER FLOAT



STOKES HARD RUBBER FLOATS

—A MOST IMPORTANT PART of **CURTIN VALVES**

The superiority of the Curtin Valve is largely due to the use of a STOKES HARD RUBBER FLOAT. Higher living standards demand noiseless, sure acting tank fittings. The Curtin Valve closes silently—there is no thump so common with the ordinary float ball.

Then, too, the STOKES HARD RUBBER FLOAT will not warp or swell and retains its buoyancy indefinitely. Hard Rubber will not rust or corrode. It is the ideal material for underwater service.

When buying tank fittings, be sure and ask your jobber to supply you with those containing the trouble-proof STOKES HARD RUBBER FLOAT.

•

Stokes Hard Rubber Products

for the plumbing trade include standard Round and Oval Floats, Special Type Floats, and Overflow Tubes with Adjustable Guide Arm and Bushing. ASK YOUR JOBBER!

MOULDERS SINCE 1897 OF HARD RUBBER PRODUCTS IN EVERY CONCEIVABLE FORM.

MOULDERS OF PLASTICS.

Joseph Stokes Rubber Co.
Trenton N. J.

Canadian Plant: Welland, Ont.

Look for the

Mark of Quality

Make Money Now *by selling...*
NEW WARLO WATER SOFTENERS

Quick sales and immediate profits await plumbing contractors who offer customers these new, improved, low-priced water softeners.

Prospects are waiting along every street in your territory, in every home and building that has running water. Don't wait for some one else to beat you to them. Start selling the new *Warlo Water Softeners* now. Go out yourself and send your salesmen out to sell your customers and their neighbors. You'll find a welcome with women who want soft water to preserve their hair and skin, to save work and money in laundering, dishwashing, and cleaning. You'll find a welcome with men who enjoy shaving with soft water, and enjoy still more the lower upkeep costs on their property and the reduced fuel bills.

Crane Qualified Dealers can sell on the Crane Budget Plan, letting their customers pay in small monthly installments while they get the money due them immediately the installation is complete. Write for full information.

FOURTEEN POINTS THAT HELP YOU SELL...

About the Softener

1 Choice of hand-operated or brine tank types.

2 Lowest prices consistent with quality. As low as $99.50 for hand-operated type, $129.50 for larger capacity brine tank softeners.

3 Simplicity in regeneration. In the hand-operated type, only four valves to turn for regeneration. In the brine tank type, regeneration is simplified even over the hand-operated.

4 Up-flow principle in softening, like that found in higher-priced Crane-Warlo Water Softeners, made by the same company. Assures contact of every drop of water with softening mineral and eliminates channeling and packing of mineral bed.

5 Down flow in regeneration, to efficiently restore mineral and prevent waste of water and salt.

6 Crane Valves and Fittings throughout.

7 Light weight and low-cost installation.

About soft water

1 Saves soap in laundering, dishwashing, and all cleaning.

2 Saves labor in laundry, kitchen, and general cleaning.

3 Keeps boiler, piping, and water heater from liming up.

4 Gives whiter linens and sparkling glassware.

5 Keeps hair soft and lustrous and the skin soft.

6 Gives a smoother shave and pleasanter bath.

7 Keeps cooked vegetables tender.

This new hand-operated Model H-O 12 Warlo Water Softener of 12,000 grain capacity for ... **$99.50**

This new brine tank model B. T.-15 Warlo Water Softener of 15,000 grain capacity for .. **$129.50**

All prices f. o. b. Rockford, Ill.

Special Limited Introduction Offer

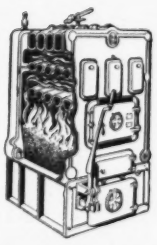
A special dealer's display discount of 10% on one each of the units ordered prior to November 1, 1931 is being offered. Take advantage of this by getting your order in immediately. Write for further details.

CRANE

WATER SOFTENERS, WATER SYSTEMS, VALVES AND FITTINGS

CRANE CO., 836 SOUTH MICHIGAN AVENUE, CHICAGO
NEW YORK OFFICES: 23 WEST 44TH STREET
Branches and Sales Offices in One Hundred and Ninety Cities

Burnham Boilers



The Burnham's long fire travel makes its short coal bill. And we can prove it. Want the proofs?

A Long Midway Makes Big Gate Receipts

IN boiler sales, as in pleasure parks, the crowds go where they get the most for their money.

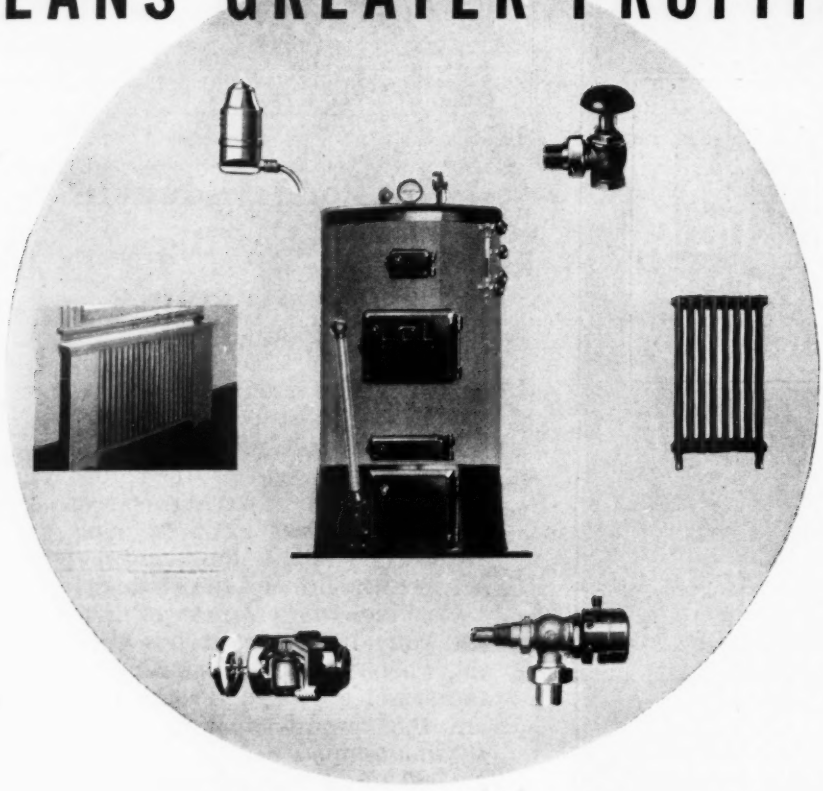
Which is just what Burnham Boiler owners get for their fuel money. More heat for less money, because Burnham Boilers' long fire travel puts a long midway between the fire and the chimney.

Convince your prospects of that, and you'll have more cash in your till, when it comes to counting up the season's profits. Profits that are the reward of wide awake showmanship.

Glad to tell you the whole glad story. With plenty of instances to clinch the facts. Write for it and them.

Burnham Boiler Corporation
IRVINGTON, NEW YORK
Representatives in all principal cities of the United States and Canada

Undivided Responsibility plus your Ability MEANS GREATER PROFITS!



THIS is the year of discriminating buyers. People are weighing values. They are buying reputable products from reliable dealers. They want their automobiles, radios and their heating systems backed by a single manufacturer responsible for all parts. So take no chances on your installations by using inferior valves, pipes and fittings. Successful dealers are concentrating on "All-American" heating equipment. Why not let the best known name in heating identify each and every part of all heating systems you sell? This undivided responsibility of the manufacturer plus your ability in installation means easier sales, dependable service and greater profits. Write today for full information about the complete American Radiator line and the convenient payment plan for home-owners.

AMERICAN RADIATOR COMPANY

40 WEST 40th STREET, NEW YORK CITY

Division of

AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

On one shoulder you can carry enough pipe for the average job

A hacksaw, sand cloth and blowtorch are the only tools necessary for making a connection between Mueller STREAMLINE Hard Copper Pipe and Mueller STREAMLINE Fittings. A can of Mueller STREAMLINE paste and a spool of Mueller STREAMLINE solder wire complete the kit of the modern, scientific journeyman.

The fitting and the end of the pipe are cleaned, coated with flux and fitted together. The fitting is heated with a blowtorch and two drops of solder (for one-inch pipe or less) are introduced into the hole in the fitting.

The never-failing phenomenon of capillary attraction distributes the solder evenly over the area between the pipe and the fitting in a film not as thick as a human hair. This solder film forms a perfect bond with pipe and fitting. The result is a joint stronger than the pipe itself. Expansion will not work it loose, rust cannot corrode it. Vibration cannot make it leak.

If you are not thoroughly familiar with this patented joint, consult your jobber or write for our catalog.

Mueller STREAMLINE fittings are furnished in full range and in sizes of ¼-in. to 8-in. inclusive.

Patent 1,770,852
Patent 1,776,502
Other Patents Pending

Patent 1,770,852
Patent 1,776,502
Other Patents Pending

Patent 1,770,852
Patent 1,776,502
Other Patents Pending

Patent 1,770,852
Patent 1,776,502
Other Patents Pending

Patent 1,770,852
Patent 1,776,502
Other Patents Pending

Mueller Brass Co.

PORT HURON, MICHIGAN

Mueller Brass Co. of Canada, Limited, Toronto, Ontario

(122)

"Some People have Queer Ideas"

"I found out why a lot more property owners weren't doing remodeling work after I took Sherwood's tip.

"I went out and made a lot of calls with the Sherwood Ball Cock and when I'd get into a house I'd suggest other repairs and replacements that should be made.

"I found that some people have queer ideas about how much new plumbing and heating equipment costs. When I'd give them an estimate, they'd look surprised and then order the work done.

"One man said to me, 'I always thought a new bath room would cost several thousand dollars. I didn't dream I could get as nice a job as you've done here for so little money.'"

Sherwood Ball Cocks will discover many new things for you. They'll discover many sales that you'd otherwise miss.

Take Sherwood's tip on remodeling. Use Sherwood Ball Cocks to get the "in" to those jobs that will result in new pottery sales.

Point out how Sherwood will close against any city water pressure without whistling or gurgling and how it will save many dollars in wasted water.

Start today. Order Sherwood Ball Cocks from your jobber. Plan to make five calls a day. Watch your sales go up!

Alexoid RED BAND NON-CORROSIVE

Where water conditions are below normal and where they take a toll in wear from ball cocks, install the Sherwood Red Band (Alexoid) Ball Cock. It has been designed to meet the worst conditions in the best manner and is but slightly higher in price.

SHERWOOD BRASS WORKS

Jefferson and Mt. Elliott Aves. **Detroit, Michigan**

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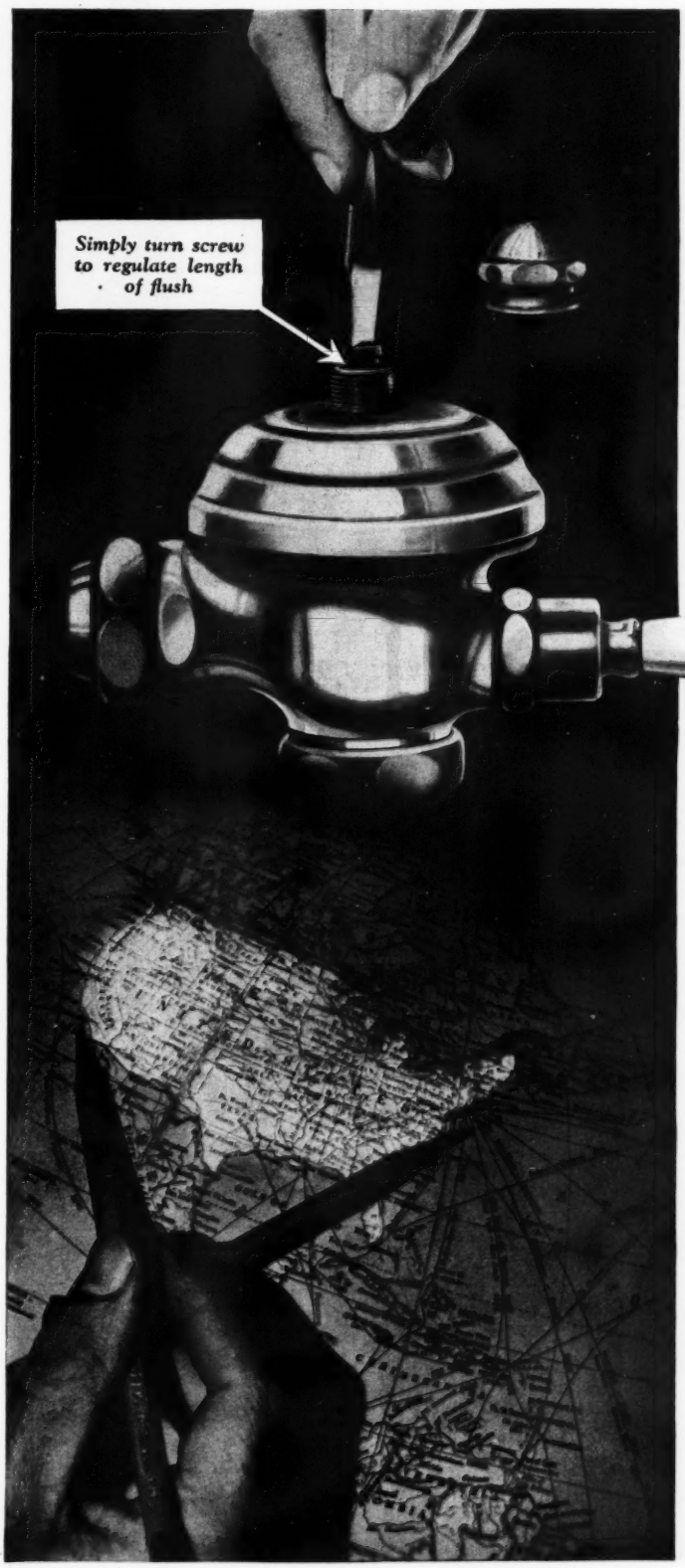
Fred G. Hoffman, 831 Edgewood Ave., Trenton, N. J.
Fred S. Wilsey, Plymouth Bldg., Minneapolis
Geo. W. Smith Co., 348 W. Penn Pl., Pittsburgh

SHERWOOD Ball Cocks

PLUMBERS SAVE MONEY



From Coast to Coast with this

Watrous

SIMPLE REGULATION

The only diaphragm type of Flush Valve that has this Feature

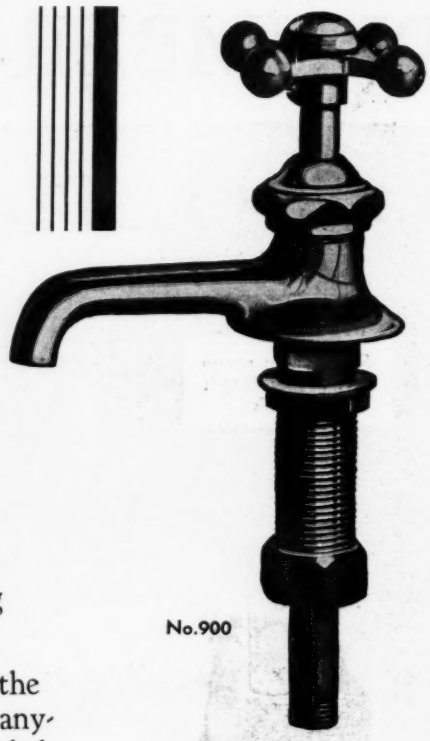
Here is why

1. Watrous Valves are diaphragm type. Adjustable for varying water volume by merely turning the screw shown in the illustration. Regulation can be made without turning off water supply or dismantling of valve.
2. By-pass is self-cleansing—will not clog from sand or foreign material.
3. Has 25% larger diaphragm area in control chamber, therefore longer lived.
4. Larger water-way releases more water per second of opening. Unequalled for eliminating usual "top floor troubles" because of lowered water pressures.
5. Watrous Flush Valves are trouble-proof. No costly "comebacks", no expensive servicing after installation.

Write for free copy of new Watrous catalog

THE IMPERIAL BRASS MFG. CO.
1231 W. Harrison Street
CHICAGO ILLINOIS

"I never knew there *could* be such a difference"



No. 900

That's what a home owner said the other day to a plumber about the American Brass Goods the plumber had installed a few months ago.

"That old sink faucet and the lavatory and tub equipment chipped and got green looking a few weeks after it was put in. It leaked and made annoying noises through the night.

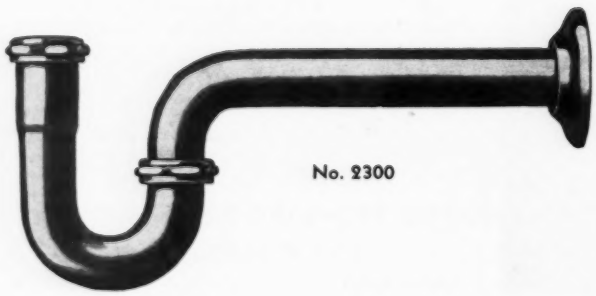
"The American equipment, on the other hand, hasn't begun to look anything but brand new. It's stopped the leaking and incidentally cut down our gas bill and is saving us some money on water.

"I never knew there could be such a difference in that stuff. It certainly looks alike when it's new but the mediocre equipment falls apart in a hurry."

No. 573

That's the sort of commendation American Brass Goods will win for you. Why not order a few American faucets and bath equipment and make a few calls on prospects and customers? You'll find numerous sales opportunities not only for American products but for other things you sell, too.

From your jobber.



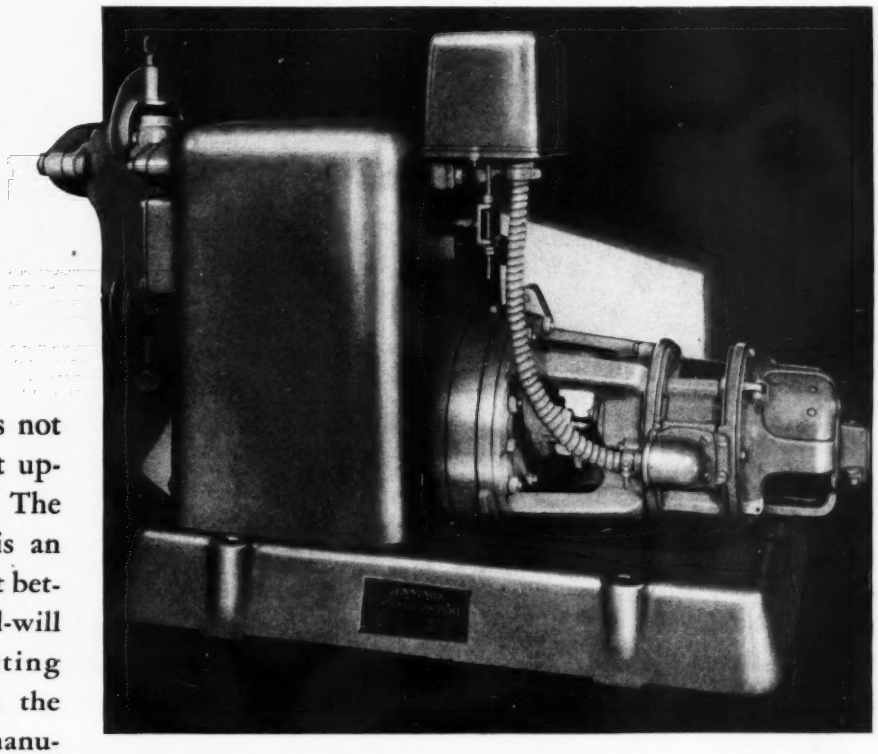
No. 2300

AMERICAN SANITARY MFG. CO.

ABINGDON, ILLINOIS

A pump

worthy of *your* reputation



YOUR reputation is not wholely dependent upon good workmanship. The equipment you install is an important factor. What better way to build good-will than by always selecting equipment that bears the name of a reputable manufacturer.

The Nash trade mark on the Jennings Condensation Pump signifies quality. Where basement radiators are called for, this pump provides a positive means of removing the condensation and returning it under pressure to the boiler. Compact and sturdily constructed, it combines receiving tank, pump and driving motor in a single assembly. Automatically controlled, a Jennings requires little attention and can be depended upon to serve to the complete satisfaction of your customers.

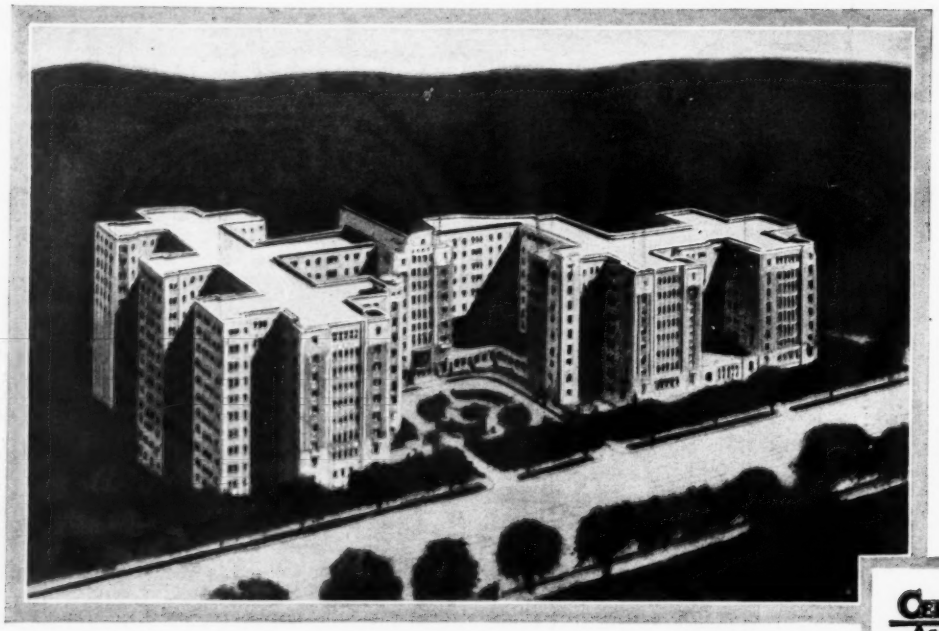
For full information on the Jennings Condensation Pump, write for Bulletin 99.

NASH ENGINEERING CO.
41 Wilson Road, South Norwalk, Conn.

Jennings Condensation Pumps are furnished in standard sizes with capacities of 4 to 200 g.p.m. For serving up to 150,000 sq. ft. equivalent direct radiation. Discharge pressures up to 60 lbs.

VACUUM PUMP AND COMPRESSORS FOR AIR AND GAS · · RETURN LINE AND AIR LINE VACUUM STEAM HEATING PUMPS · · CONDENSATION PUMPS · · FLAT BOX PUMPS · · CENTRIFUGAL PUMPS · · SUCTION (SELF-PRIMING) CENTRIFUGAL PUMPS · · SUMP PUMPS · · SEWAGE PUMPS · · PNEUMATIC SEWAGE EJECTORS

Jennings Pumps



Kennedy-Warren, Inc., Owners and Builders, Washington, D. C. Robert E. Anderson, Heating Contractor, Washington, D. C. Joseph Younger, Architect, Washington, D. C. James Posey, Consulting Engineer, Baltimore, Md.

CERTIFIED HEATING Assures Comfort

The country's largest installation of CERTIFIED HEATING by MARSH

SIGNIFICANT—the selection of a Marsh Weather Compensating System of heating by Kennedy-Warren, Inc., builders and owners of the Kennedy-Warren Apartments, Washington, D. C.

Equally significant—certification of that Marsh System; the largest heating installation ever guaranteed by the Heating and Piping Contractors Association.

Kennedy-Warren is thus protected by the absolute guarantee both of Certified Heating and of the Marsh organization, against failure or inefficiency of the heating system. And this with a guaranteed operating cost so low that it represents an annual saving of several thousand dollars over any competitive system.

It is equally easy for every home, apartment or public building to enjoy the double security of Certified Heating and Marsh guaranteed economy. Better investigate.

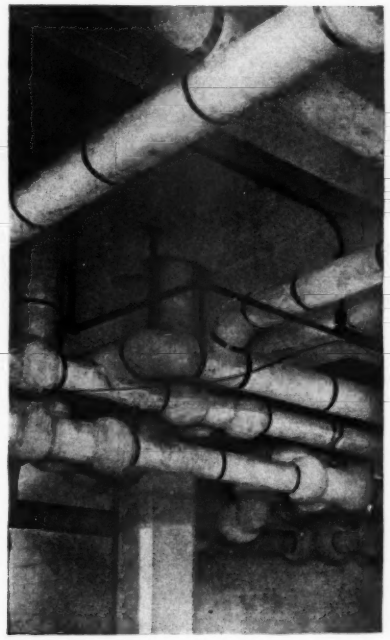
JAS. P. MARSH & CO.

HOME OFFICE:
2079 Southport Avenue, CHICAGO, ILL.
551 Fifth Ave., New York City · Bendix Bldg., Los Angeles · 2539 Pennsylvania Ave. N. W., Washington, D. C.
Sales Offices in principal cities
In Canada: The Jas. Morrison Brass Mfg. Co., Ltd.
1190 University St., Montreal 93-97 Adelaide St. West, Toronto, 2 251 Montrose St., Winnipeg

Marsh Weather Compensating System of Heating

HOW DO YOU FIND BUSINESS?

Here's a New Plan to Help You . . .



There's an Extra Profit for You in Heat Insulation Business. Use the Coupon Below to Learn How K&M Helps You

KEASBEY & MATTISON CO.
AMBLER, PENNA.

1931

I would like to be shown how I can make money by selling low-pressure insulation with your help. Send me the story.

Name .....

Street .....

City .....

208

K & M Products

Asbestos and Magnesia Pipe and Boiler Coverings

Ambler Asbestos Packings, Gaskets, Yarns and Textiles

Asbestos Paper, Millboard and Aircell

Fireproof Ambler Asbestos Shingles, Corrugated Sheets and Lumber

Ambler Waltile and Linabestos Wallboard

Briefly, the Idea Is This . . .

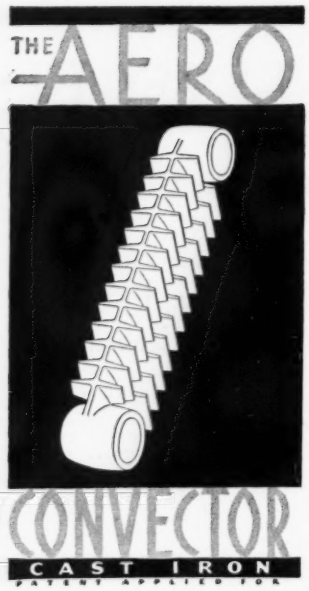
Keasbey & Mattison Company, the originators of 85% Magnesia insulation and makers of highest-grade Aircell Covering and Asbestos products of all kinds, offers to the steamfitter a made-to-order sales plan.

Its features: Nothing to Stock—Easy to Use—No Cost to You.

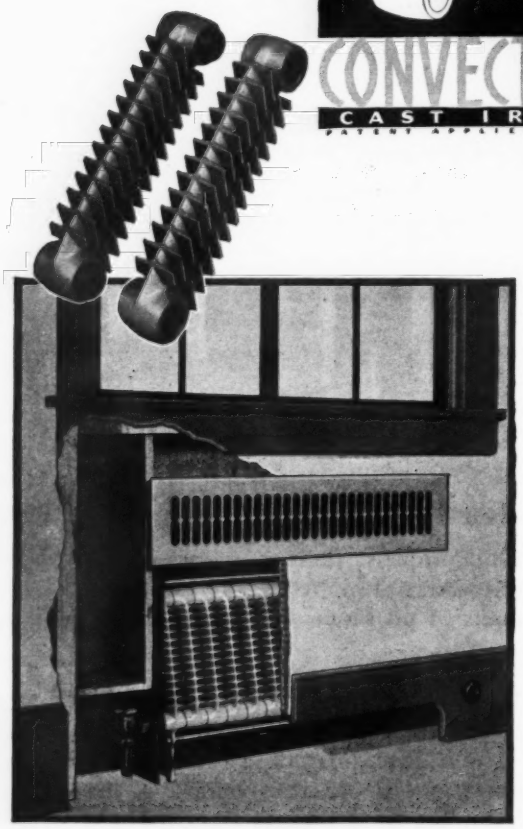
You send in the above coupon; we send you the story of the campaign. We give you data clearly and simply compiled to prove to the houseowner the economy of proper heat insulation. You send us a list of prospects for pipe and boiler covering; we write them personalized letters. Then you follow up to make the sales.

There are other ideas in the "Extra Profit" book which will help you. You really can't afford to overlook this offer, in your own best interests.

Keasbey & Mattison Company



Offering PERMANENCE AND DURABILITY



Typical Aero Convector installation for residences, using plaster front enclosure Type PF. Convector units are available for 3½", 4", 5½", 7½", and 10½" depths of recess; and in any length in multiples of 2".

PLEDGED BY CAST IRON'S CENTURY OF SERVICE

Now—in the Aero Convector—heating engineers and builders are offered a unit that commands complete confidence. Scientifically designed along new lines to conform to the different principles involved in heating by convection, its permanence and durability cannot be questioned, because of the material of which it is made.

For over half a century cast iron has been used in the manufacture of direct radiation. Its superior permanence, structural strength, and durability—its inherent resistance to all common agencies of destruction and corrosion—are known and generally accepted. It is the life-time metal, whose serviceability and satisfaction are universally conceded without doubt or question.

The nature of the material used is only one of many outstanding advantages offered by the Aero Convector. Full details will be gladly furnished, if you will write.

NATIONAL RADIATOR CORPORATION

NATIONAL BONDED CAST IRON BOILERS . . . NATIONAL BONDED GAS BOILERS . . . NATIONAL PREMIER STEEL BOILERS . . . AERO CAST IRON RADIATORS . . . AERO CAST IRON CONVECTORS

JOHNSTOWN, PENNSYLVANIA

NYE'S DIE-JEST

Published in the interest of Progressive Plumbers and Steamfitters and incidentally in the interest of the N. T. & M. W.

Vol. 1, No. 5 Nye Tools Save Time Price: One Order

STRIKE THREE

It's a funny world, isn't it? If you don't make money you're a failure, and if you do, you're a profiteer. If you don't give credit you lose business, and if you do, you lose money. The man who knocks at your door and asks for credit never comes near your door again,--but he keeps right on knocking.

If you lie people always find it out,--and if you tell the truth they think you are a liar anyway. None of us is as bad as they say or as good as we try to look,--and yet we are all about as good as anybody else. If the goods you sell are all right they bless the manufacturer, and if they are not, they blame you.

The manufacturer thinks you ought to sell more goods for more money and the public thinks you ought to sell more goods for less money,--and then wait for the money. However, cheer up. Sometime the world will appreciate you, after all. Some of the largest and finest funerals I have ever seen were plumbers and plumbing supply men.

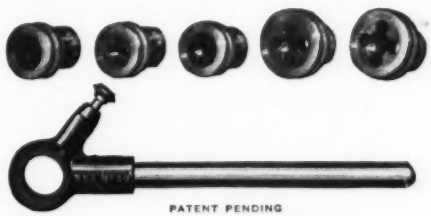
Meanwhile, Nye Dies, rapid working, easy cutting, long lasting, will do much to mitigate the evils of existence, and an order from you right now will help make me

Cheerfully yours, Harry F. Nye

Otherwise known as The Nye Tool & Machine Works.

Try the "TRIAD" on 10-Days' Free Trial

Nye "TRIAD" Stock
Ratchet Type



PATENT PENDING

The Celebrated Skip Tooth Solid Die "Genuine Nye"

Test the "TRIAD" in your own shop and prove to yourself that here is the greatest stock on the market.

Can be completely assembled or dissembled by hand—no screws or screw-driver necessary. A genuine time and money saver.

Fully equipped with Nye Solid Round Dies; held in place by two stationary pins built in the die heads to prevent their turning; locked in by a threaded die head cap, easily removed by a few right-hand turns.

Dies may be reversed in die holder to thread close nipples, special bushings being provided with each stock for this purpose.

Send your order today.

	Net Price
No. 50, complete, ⅛" to ¾"	$16.63
Ratchet	1.93
⅛" Die Head with Die	2.80
¼" " " " "	2.80
⅜" " " " "	2.80
½" " " " "	3.15
¾" " " " "	3.15
Dies only, each size	1.93

West of Rocky Mountains, 5% Additional

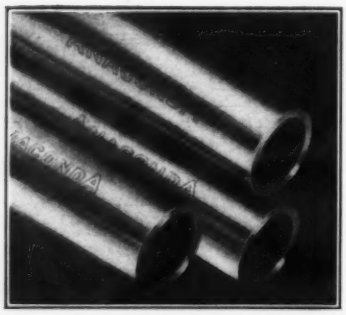
THE NYE TOOL & MACHINE WORKS
MANUFACTURERS OF HIGH GRADE PIPE TOOLS

4120-4130 Fullerton Ave. CHICAGO, ILL.

ANACONDA
from mine to consumer

"If *he* can do it, so can I"

"The other evening I overheard an electric refrigerator salesman make a sale. I became convinced that people *will* pay for a superior product when they appreciate its advantages."



Don't hesitate to recommend Brass Pipe. When people understand the convenience and economy it offers, they are willing to pay its slightly higher first cost. *Anaconda* Brass Pipe is backed by the industry's best known name.

Leading plumbing supply houses carry Anaconda 67 Brass Pipe for normally corrosive water, Anaconda 85 Red-Brass for highly corrosive water, and Deoxidized Copper Water Tubes. The American Brass Company, Waterbury, Connecticut.

ANACONDA BRASS PIPE

Let "CORRUGATIONS" help you "clinch" Fall replacement jobs

Send the story of Weil-McLain corrugations along with your bids and clinch replacement jobs *at a profit*. Here is why: The story of Weil-McLain corrugations is a story of *fuel economy*—and never before have house owners been more interested in economy than right now! Never before has the corrugations story been a more powerful sales-closing point!

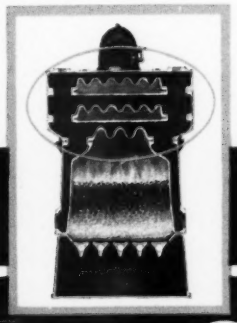
Your prospect can readily understand why corrugations like this ∿∿∿ in the vital heating surfaces of Weil-McLain Boilers increase the heating surface from 30% to 40%, and because of this increased heating surface Weil-McLain Boilers are able to absorb more of the steady heat from coal or coke or more of the quick heat produced by oil burners. And when you show him that Weil-McLain Boilers mean more heat at *less fuel cost*—year after year—you are giving him *something more than price to think about* in making his choice!

The complete Weil-McLain line includes Round, Jacketed, Square, Self-Feed and Smokeless Boilers; also Cameo Radiators.

W E I L - M c L A I N C O M P A N Y

General Offices: Chicago. Boiler Plant and Offices: Michigan City, Indiana. Radiator Plant and Offices: Erie, Pennsylvania

Jobbing Distributors with local stocks in most jobbing centers

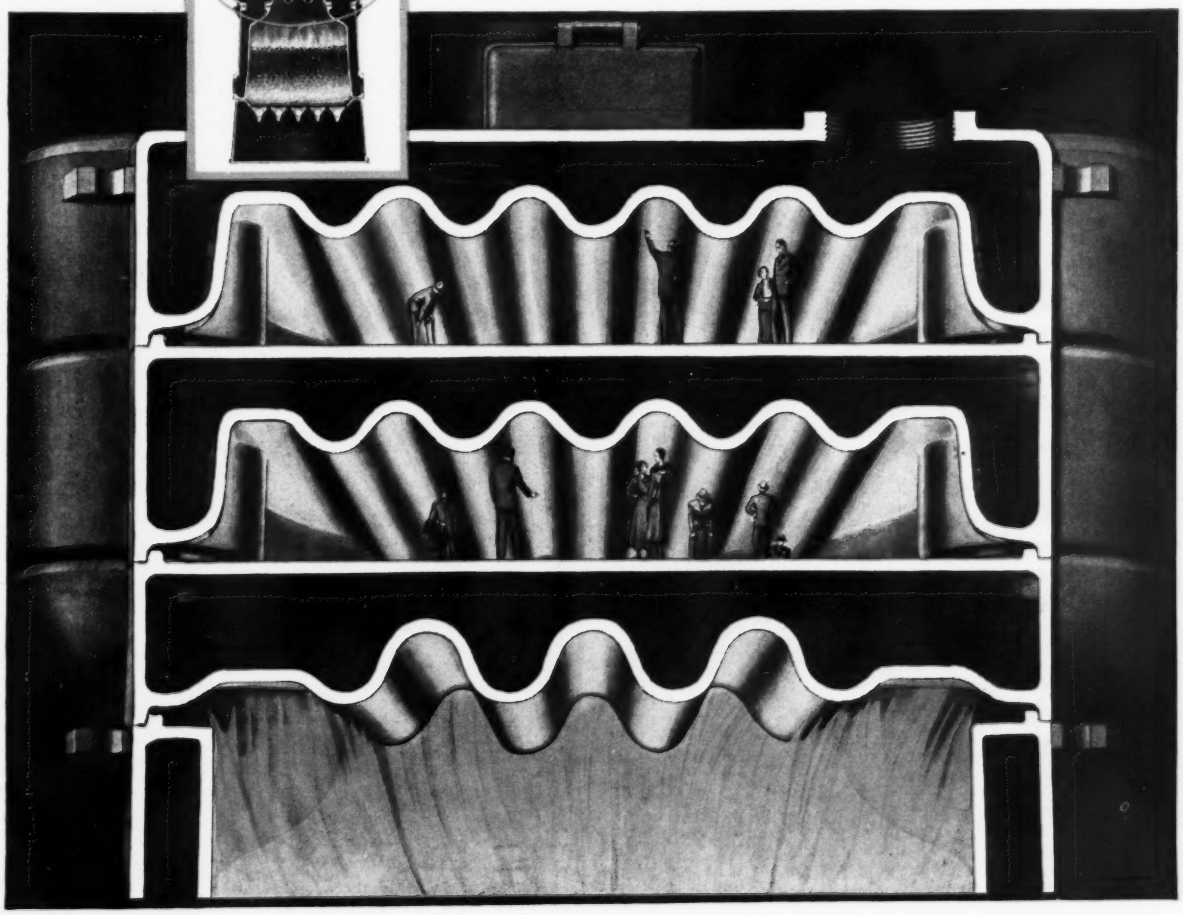


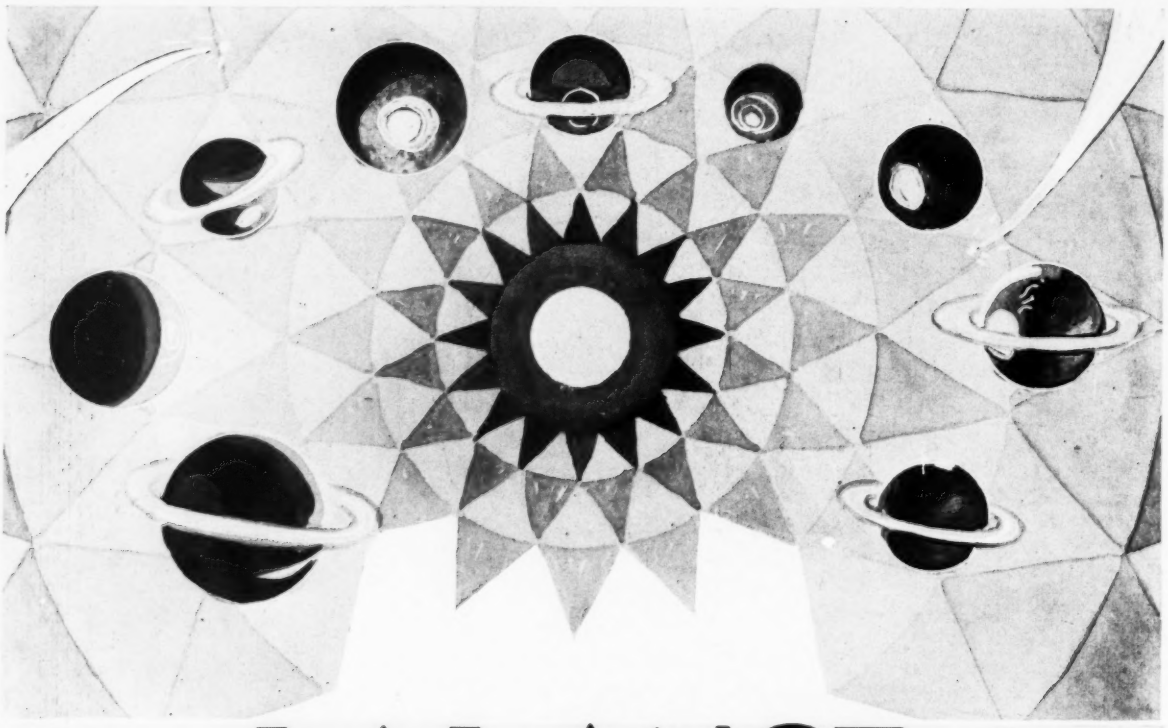
Weil-McLain

SCIENTIFIC COMBUSTION

BOILERS

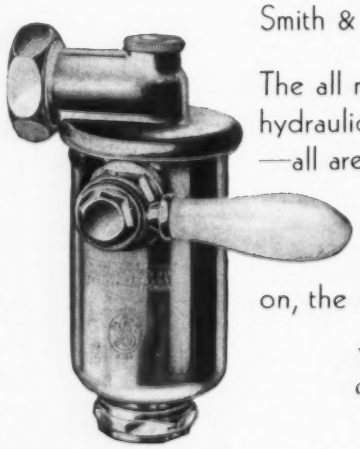
FIGHT FUEL WASTE AND DELIVER MORE HEAT





BALANCE

The same accurate balance that holds the solar system securely rules the action of Smith & Wesson Flush Valves.



The all metal construction of the valve, the hydraulic governor that controls each flush —all are balanced for their particular duty.

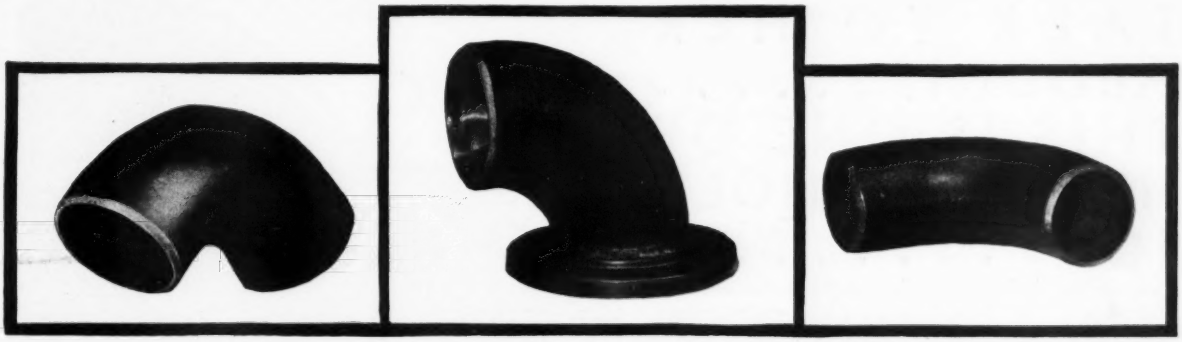
Adjustments need be made once and *once only*. From then on, the valve is self sustaining.

Your jobber is the man to consult about flush valves. Ask him about Smith & Wesson.

SMITH & WESSON
FLUSH VALVE DIVISION
SPRINGFIELD MASS.

Number five of a series of advertisements emphasizing the perfect Balance of Smith & Wesson Flush Valve Design and Construction.

FLUSH VALVES SMITH AND WESSON



NOW AVAILABLE IN BYERS GENUINE WROUGHT-IRON— SPECIAL BENDING PIPE AND WELDELLS!

TWO modern needs are solved by the manufacturing achievement which makes this announcement possible. Wrought iron now offers new solutions to old problems!

SPECIAL BENDING PIPE: This pipe has every quality and characteristic of Byers Genuine Wrought-Iron Pipe — *plus bend-ability!* On cold bends, the extra-heavy bending pipe can be bent to a center-to-center diameter as low as 3.3 times the outside diameter of the pipe! In any industry, there are definite places where this special bending pipe is the utmost in performance and economy.

WELDELLS *(Welding Elbows):* Perfected and manufactured by The Locomotive Terminal Improvement Company, Chicago, wrought-iron Weldells are manufactured exclusively from Byers Genuine Wrought-Iron. They are available in sizes from 2 inches to 12 inches and are fabricated with the same radius and center-to-face measurements as standard radius fittings. In the forging, a tangent is formed on each end, making Weldells interchangeable with standard fittings. Made of the same wrought iron as the pipe, Weldells may be welded directly into a line, saving time, trouble, and money where welding is the method of fabrication prescribed. Unless otherwise specified, both ends are beveled 45 degrees for welding. This new achievement in wrought iron demands your consideration in the interest of service and economy!

Accurate control of physical and chemical characteristics that modern manufacturing permits makes Byers the best wrought iron ever produced. A bulletin entitled "Pipe Bending" and a folder entitled "Piping Continuity" will be mailed free upon request. A. M. Byers Company, Pittsburgh, Pennsylvania.

These are the Byers Genuine Wrought-Iron Products

Pipe	Couplings
Special Bending Pipe	Weldells*
Tubing	Plate
Casing	Bar-iron
Nipples	Blooms

*MADE FROM BYERS GENUINE WROUGHT-IRON BY THE LOCOMOTIVE TERMINAL IMPROVEMENT COMPANY OF CHICAGO

BYERS GENUINE WROUGHT-IRON PRODUCTS

TALK TO HER ABOUT IT . . . . . THIS IS ONE OF HER HOUSEHOLD JOBS . . . . . .

One of the duties of the housewife is the efficient operation of her household . . . and making more attractive its various departments . . . She is always glad to hear your story about anything that will add convenience or beauty to her home . . . whether it be modest or pretentious . . . So talk to her about WB Dependable Double Sink Faucets . . . Show her these gleaming fixtures . . . there are many models . . . Tell her how easily the silver-like finish is cleaned . . . Tell her how the careful design and manufacture of these faucets guarantee a continuous supply of water from one faucet . . . hot . . . cold . . . or temperate . . . as she desires . . . Talk to her now about it . . . . . .

WOLVERINE BRASS WORKS
GRAND RAPIDS - - MICHIGAN
We Sell the Retail Plumbing Trade

·convenience·and·beauty·
·WB·WB·
·WB·WB·
both are demanded
by modern women
Modern women want their kitchens to be convenient, whether their establishment is pretentious or modest . . . . Modern women want and appreciate the convenience of a double sink faucet . . . . Modern women insist that this faucet have Beauty as well as Convenience . . . . Modern women have found the "WB" Double Sink Faucet the answer to both of these requirements. More so . . . . because of "WB" Dependability . . . . The careful design and manufacture of "WB" Double Sink Faucets guarantee a continuous supply of water from one faucet . . . hot . . . cold . . . or temperate . . . as desired . . . . We can quickly install a "WB" Double Sink Faucet on any sink.
Finished in "WB" Chrome Plate or Heavy Nickel.
We Carry Many Patterns and Styles.
Your Choice of
or Chin
erine·double·sink

WOLVERINE

P R PIPE

(PAUL REVERE PIPE)

will help you sell more replacement jobs

EVERY plumbing contractor knows the replacement market is a wonderful money-making opportunity. He knows the big obstacle has always been the cost of ripping up the house to install rigid pipe.

P R Pipe largely eliminates this difficulty. It comes in 60-ft. coils. Long runs can be made inside walls and under floors without joints and without wholesale tearing up. Practically the entire cost of a replacement job now goes for actual plumbing. Lower cost for your customers. Yet a fair price at a fair profit for you.

However, the best reason for using P R Pipe is . . . P R Pipe. It is 99.9% pure copper, completely deoxidized, with a gun-barrel inside finish, free from flaws and imperfections. It is rust-proof, will stand repeated freezing, is equally suitable for hot or cold water lines. It is joined by compression fittings.

P R Pipe is available in two tempers, No. 1 (Soft) for replacement jobs and concealed work. No. 2 (Hard) for exposed runs where appearance counts. Always the right pipe for the job.

P R Pipe will help you sell more replacement jobs, as well as new construction work. Why not find out more about it, and about what Revere is doing to help you? For further information address Revere Copper and Brass Incorporated, 230 Park Ave., N. Y. C.

Journeymen plumbers can snake the long flexible lengths of P R Pipe through narrow, restricted spaces with minimum tearing up. The plumbing cost is practically the entire cost of a replacement job where P R Pipe is used.

Revere

Copper *and* Brass

INCORPORATED

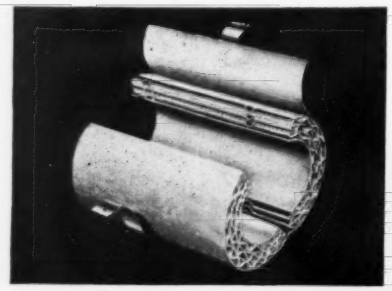
Baltimore *Division, Baltimore, Md.* Taunton-New Bedford *Division, Taunton, Mass.* Higgins *Division, Detroit, Mich.*

Dallas *Division, Chicago, Ill.* Michigan *Division, Detroit, Mich.* Rome *Division, Rome, N. Y.*

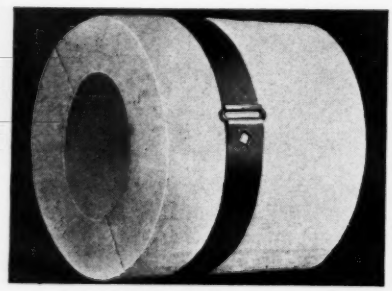
EXECUTIVE OFFICES: NEW YORK CITY

GENERAL OFFICES: ROME, N. Y.

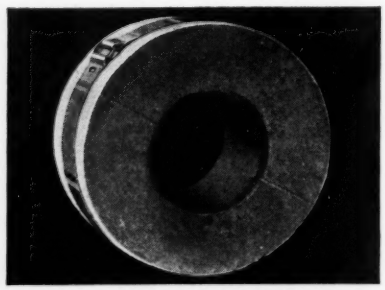
For *superior* Service . . *greater* Fuel Savings . . for *larger* Profits . .



IMPROVED ASBESTOCEL *for temperatures up to 300° F. Cross corrugated construction increases insulation effectiveness. Always uniform in size, it saves labor, time and assures a neat job in home basements. Nationally known. Nationally advertised.*

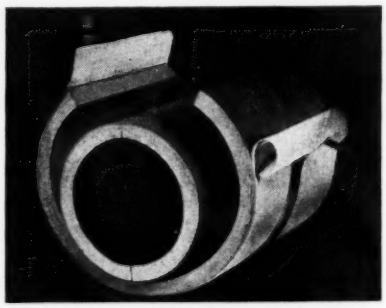


J-M 85% MAGNESIA *for temperatures up to 600° F. Years of use have definitely established it as the most efficient insulating material for general use within its temperature range.*



J-M WOOL FELT PIPE INSULATION *for insulating hot or cold water pipes where a low-priced material is required. Furnished in 3-foot sections in thicknesses of ½ inch, ¾ inch and 1 inch.*

You can bank on these time-tested and high-quality Insulations . . .



J-M ANTI-SWEAT PIPE INSULATION *is built up of layers of insulation and waterproofing felts, used to insulate cold water pipes and to prevent condensation.*

THERE is no job of low pressure insulation—whether for a domestic heating system or for the complicated steam and water lines of a modern skyscraper—that cannot be taken care of *efficiently* and *economically* by these Johns-Manville Insulating Materials.

For every condition of temperature and service—both of which vary widely on different jobs—there is a J-M material which guarantees the maximum insulating efficiency.

Over 70 years of scientific research and development are back of every Insulating Material that bears the Johns-Manville name. The cumulative experience that this specialized service has given us is available to you, without obligation, through the coöperation of our Insulation Engineers.

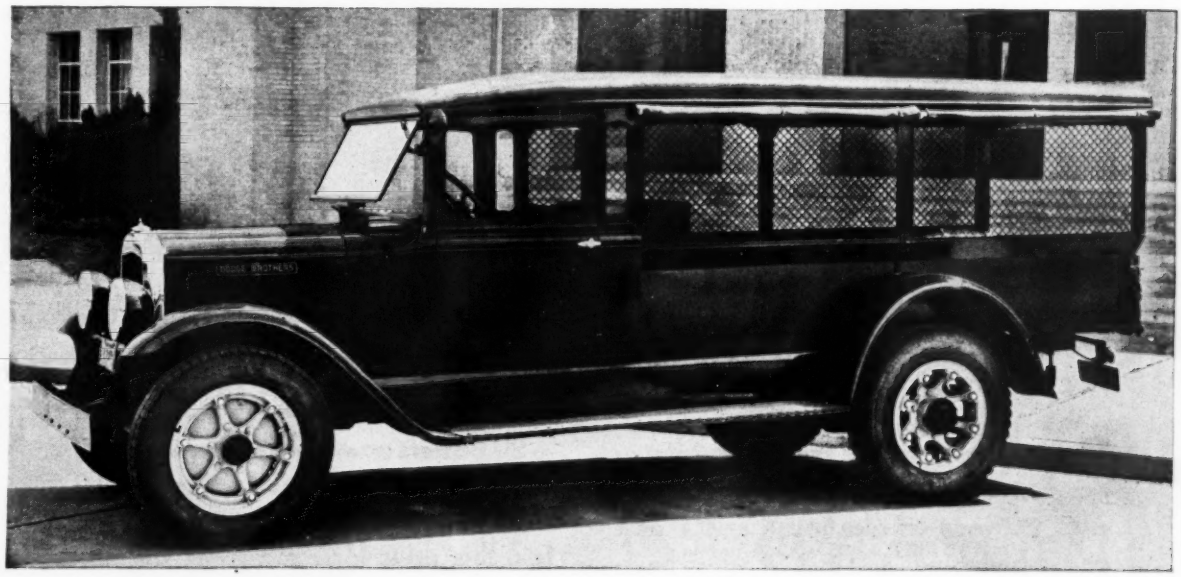
There is a Johns-Manville Distributor near you—a telephone call will bring prompt service. Either get in touch with him or write us direct. Address Johns-Manville, 292 Madison Ave., New York City.

Johns-Manville

Low Pressure Insulations

Earning ability!

THAT'S THE FINAL TEST OF TRUCK VALUE



After all, the final test of a truck's value is its earning ability. Dodge Trucks not only earn—they earn more, for several very definite reasons. » » Typical of Dodge value is the Standard 1½-ton chassis. Its price—only $595 f. o. b. Detroit—calls for but a small investment. Then, because of this truck's many exceptional features, you get greater dependability, ample power, ease of control, speed, safety, economy and long life—all an assurance of maximum earning ability. » » Inspect and test this 1½-ton truck or any of the many other Standard or Heavy-Duty types in the Dodge line. You will find that the experience gained in building over 400,000 quality Dodge Trucks assures you a truck that is precision-built and perfectly balanced part-to-part—a truck that will work and earn for you every mile of its long life.

PAYLOAD CAPACITIES IN THE HEAVY-DUTY LINE RANGE FROM 3,600 TO 11,175 POUNDS—AND UP, FOR TRACTOR AND TRAILER SERVICE. PRICES ARE EXCEPTIONALLY LOW. » » THE STANDARD LINE RANGES IN PAYLOAD CAPACITY FROM 1,200 TO 4,300 POUNDS AND INCLUDES THE 1½-TON CHASSIS AT . . . . . $595 F. O. B. DETROIT

TO HELP LOWER YOUR HAULING COSTS OPERATING RECORD BOOK FREE

DODGE BROTHERS CORPORATION E-38
Detroit, Michigan

Send your Operating Record Book. I understand there is no obligation.

NAME_____

ADDRESS_____

CITY_____ STATE_____

Number of Trucks Operated *(Book for each will be sent)*_____

DEPENDABLE DODGE TRUCKS

THE DIFFERENCE BETWEEN AN OLD HOUSE AND A NEW ONE IS PLUMBING!

"They're Bound to Make People Think— I'm Using Them All the Time!"

"These attractive orange window posters are in my windows, in my store and on my truck and automobile right along. They're bound to make people think if you use them often enough and if you keep right on pushing them.

"The oftener you use them, the oftener do you remind people that 'the difference between an old house and a new one is plumbing' and that 'modern heating makes modern homes'.

"I got a supply of them and I change them once a week. I'm going to keep right on using them all the time because they express sales facts that will help a lot in getting people to thinking about buying new plumbing and heating."

Order a supply of these posters today! Send stamps for the amount you want. We'll ship them at once.

⌄⌄

Here are the Low Prices:

100 posters (50 plumbing and 50 heating)	$1.00
50 posters (25 plumbing and 25 heating)	.50
20 posters (10 plumbing and 10 heating)	.20
10 posters (5 plumbing and 5 heating)	.10

Join this drive for remodeling business.
Get these posters. Put them up.
Use them. Order them today!

Ask About the Remodeling Charts!

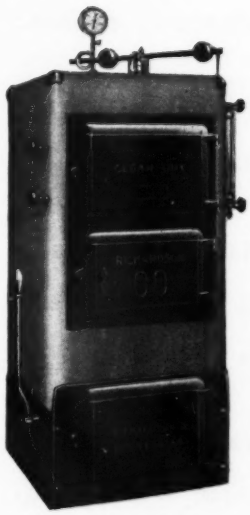
⌃⌃

DOMESTIC ENGINEERING
1900 Prairie Avenue
CHICAGO :: ILLINOIS

MODERN HEATING MAKES MODERN HOMES

A NEW ANGLE ON TIME PAYMENTS

***They're Easier to Sell When Backed with* Prudential LIFE INSURANCE**



"The R & B"
BLUE COMET BOILER

Read This Startling New Plan for Selling R & B Installations

Now—a time-payment plan with a real punch in it! A *Prudential Life Insurance Policy*. It pays up the installation in full, should death occur.

You'll start some real excitement when you start talking about Prudential. The famous "Rock of Gibraltar" advertising is there to back you up. Easier to sell? You bet it's easier to sell. Then, when you get the order, we step in. We pay you for it right away, full amount. We collect all the installments from your customer—you don't lift a finger. We even make the credit investigations. And we handle all our paper ourselves, instead of turning it over to some finance company that hasn't any particular interest in your business or ours. Send for full details and complete descriptive booklet this very day!

RICHARDSON & BOYNTON CO.

Heating and Cooking Apparatus Since 1837

260 Fifth Avenue, New York, N. Y. — **Utica, N. Y.**

CLEVELAND	BROOKLYN	NEW HAVEN	DOVER
PHILADELPHIA	BOSTON	CHICAGO	BUFFALO
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RICHARDSON & BOYNTON CO.
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Nearly 30 years have passed since "TOLEDO" tools were introduced. During these years there have been attempts by competitors to equal the "TOLEDO" design. Sponsors of these attempts were strong in their claims yet not one has proved a lasting success under working conditions.

Today there is no better vindication of the "TOLEDO" design than the fact that most 1″ to 2″ die stocks are patterned after the original "TOLEDO" design of 30 years ago.

No other pipe tools have been more consistently copied.

Some of these imitations are made to vary slightly, apparently for the sole purpose of creating sales talk.

Most of the so called "Improvements" have been known to "TOLEDO" engineers for years but were rejected because tests proved them to be of no merit.

Therefore don't be misled by sales talk. Select your pipe tools with caution. Remember you're safe with genuine "TOLEDOS."

THE TOLEDO PIPE THREADING MACHINE CO., TOLEDO, OHIO

NEW YORK OFFICE, 72 LAFAYETTE STREET

Our Industry

DOMESTIC
ENGINEERING
SEPTEMBER 19, 1931

How many of us ever think of looking for business in a slum district? Yet New York reports model apartment projects from these districts add up to $9,000,000 completed or under way, with $5,000,000 approved and another $5,000,000 awaiting approval. These poor districts may feed the roots of a new prosperity.

This plan is not only interesting but some business organizations have proved it workable. It means making over the run down sections which clog most American cities. These tenements and unused buildings are an offense both to the eyes of the onlooker and more particularly to those unfortunate people who live under conditions which breed unhealthy bodies and abnormal or criminal minds.

Somebody obviously owns these properties. The income must be small and uncertain. The carrying charges must be growing proportionately larger. And in New York taxes are removed for 20 years on apartments renting below a certain level.

Some organizations, starting from the standpoint of philanthropy have cleaned out whole blocks of these buildings, replacing them with new apartments—only to find in some cases that what began as philanthropy turned out to be a profitable investment.

The owners of this run down property should build when costs are low. Some contractors in some towns are going to get this kind of business. It's worth trying for.

Heating in Residences

This is the beginning of a new and important work on heating, by Harold L. Alt. The need for it is amply indicated in his own words: "Within the last few years, an enormous amount of newly designed heating equipment has been put on the market." All of these advancements must be fitted properly into heating practice by those who install them, and contractors will find this material of daily value

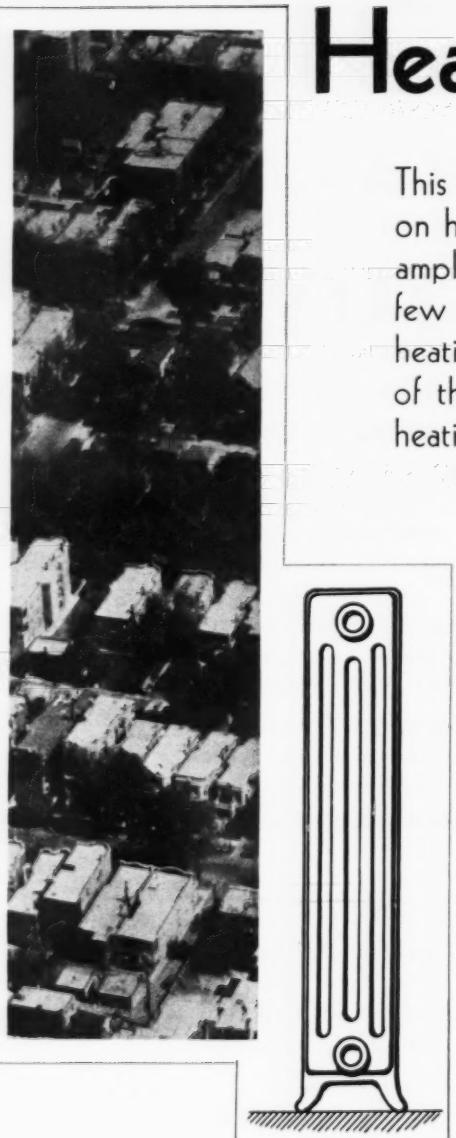


Fig. 1

PROGRESS made in the design and manufacture of heating equipment within recent years has been so great that the installation of heating systems in small structures—such as bungalows, residences, garages, and combination store and apartment buildings—presents entirely new and different aspects from what it did only a few years ago. It is hoped that the material presented herein will prove of help to the younger members of the industry, who are likely to try themselves out on smaller work before attempting the larger and more complicated installations. At the same time, it is quite possible that some of the more experienced and proficient will find a few new thoughts that will well justify the time they may spend in going over the material which has been collected.

Residential and small building work does not make such an imposing spectacle when viewed from the individual job standpoint. The square feet of radiation, the miles of pipe, the thousands of dollars cost of a skyscraper are much more impressive. However, taken in its entirety it is astonishing to find the immense influence which small building work has upon the construction industry in general.

The smaller building usually throws a greater responsibility on the heating contractor than the larger one. This is because the more important work is able to carry the expense of engineering talent and the complication is so great that all of the work must be laid out in advance in order to be sure that sufficient space conditions have been provided. It is important to leave as little to chance as possible after the contracts are let. In the small building it is quite customary to leave some —if not all—of the design of the heating to the heating contractor, who may be called upon to size radiators, locate mains, guarantee the boiler and in many ways take the entire responsibility for both the design and operation of the system. It might not be entirely out of the way to say that a small job takes a better contractor, where he carries the work out on his own initiative, than a large job where the contractor works under the direction of an engineer and from a detailed and positive set of plans and specifications. Certainly the big contractor's responsibility may be less.

Within the last few years, an enormous amount of newly designed heating equipment has been put on the market. Oil burners, unit heaters, new types of radiation both in cast iron and copper, concealed radiators —or convectors as some like to call them—temperature control devices, automatic control, hot water accelerators, electric refrigerators and drinking fountains, miniature steel boilers, gas boilers, air conditioning and air cooling, oil filters, and many others might be mentioned as being comparatively recent developments in the heating industry. Combined with this is a demand on the part of the purchaser for more efficiency, less trouble and greater cleanliness in operation. All of this gives the heating contractor something to think about.

The first and primary point to get settled in any heating installation is the source from which the heat

and Small Structures

The importance of the residential heating field is pointed out by the author: "Residential and small building work does not make such an imposing spectacle when viewed from the individual job standpoint. However, taken in its entirety, it is astonishing to find the immense influence which small building work has upon the construction industry in general." Hence this comprehensive survey of fundamentals and things new

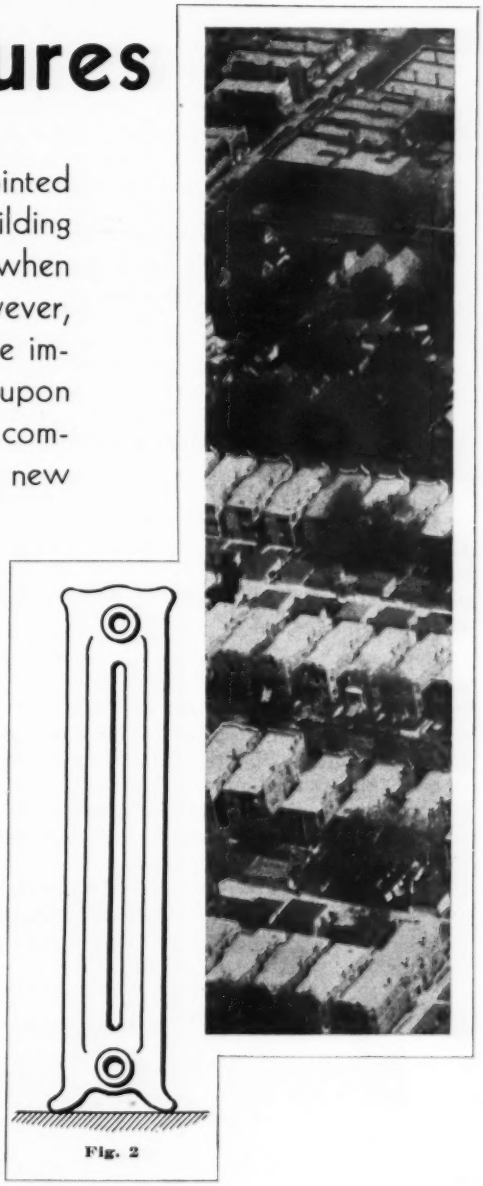


Fig. 2

will be produced or received. This generally comes within one of five classes:

a. Coal.
b. Oil.
c. Artificial Gas.
d. Natural Gas.
e. District Heating or Street Steam.

The heating systems which do not employ one of these means are so few that they will not be considered here. In regard to the selection of the source of heat the owner usually has some preference and must be governed by the sources available and the cost of same. It would be useless to try to consider natural gas where only artificial gas is available, or to think about street steam when there is no such supply in the location where the residence or building is to be erected. Coal is obtainable almost everywhere throughout the country and oil is nearly as universal. As every installation is a separate and individual proposition when the selection of the source of heat is under consideration, it is difficult to give any advice here that will be anything but very general in nature. There is little doubt that oil, gas and street steam are the cleanest and most satisfactory sources of heat when price and operating costs permit their use.

Type of Heating System

After the source of heat has been determined the next thing requiring attention is the type of heating system to be used. Shall it be hot water, steam or warm air? If steam, what kind of a steam system should be used? On very small bungalows, houses, and even in some not so small, hot water furnishes an ideal even heat which is easy to control and is especially suitable for mild days. While the radiation and pipes are somewhat larger than required for steam, the valves are simple and inexpensive and, in some very small jobs, can be omitted altogether, besides which there is the advantage that the boiler can be set on the same floor level with the radiators and still circulate the water through the system. With most steam systems the radiation must be placed above the boiler water line, which if there is no cellar in the building, often introduces a difficulty. A one-pipe steam system is the cheapest type of steam heating which can be installed but is rapidly going out of date, especially in the better class of work. Vacuum steam systems and differential vacuum heating systems require a pump for their operation and, while occasionally installed in high class residences, they are not used to any extent as yet in the common small house or other type of building.

It should not be forgotten that the smaller a building becomes the less likely it is to obtain expert attention to the operation of the heating system and the small building installation should, as far as possible, partake of a foolproof automatic nature rather than depend on complicated manual manipulation. This is one reason hot water is so popular in bungalows and small residences; it will work and work well as long as a fire is

kept in the boiler—a big fire on a cold day and a small fire on a mild day.

Materials for Heating Systems

When we come to decide on radiation there are any number of styles, makes, and sizes. There is the cast iron tubular, wall, and indirect; there are a multitude of copper fin radiators of varying designs; there are cabinet radiators and concealed radiators. Many better type home owners object to the exposed cast iron radiator although the tubular type, see Fig. 1, was designed to replace the old column type, see Fig. 2, largely with the idea of overcoming the objection to the appearance of the exposed radiator. Yet in the competition type of house the radiator continues being exposed to view without serious injury to any one.

It will be found that each type of radiation has its place and the only thing to be remembered is that it is not very good to mix cast iron and copper surface on the same installation. This is due to the copper heating up so much faster and cooling off so much more quickly than cast iron, that the heating results obtained in adjacent rooms are likely to vary and cause trouble. This is especially true where automatic control is installed on an oil or gas-fired boiler.

Unit heaters are not so likely to be found in small building work although they have a very distinct field in the small factory and in the small garage. One-pipe steam systems and atmospheric systems are most subject to corrosion on the pipe lines due to the air having free access to the return line and due to the lines carrying part vapor and part water. Vapor systems which operate below atmosphere pressures by self-induced vacuum are not as subject to corrosion and in this regard vacuum systems which are closed systems are still better. Therefore pipe which has the maximum corrosion resistance should be used on systems where the atmosphere has free entrance.

Valves and specialties used are a matter of type of system.

The one thing to be kept in mind in selecting any device or apparatus for small heating installations is that of simplicity and service. The simpler the apparatus the more likely it is to be operated somewhat as it should be and the more rugged it is to withstand dampness, dirt and lack of attention, the better will be the service rendered. Every house owner or occupant is not a natural born operating engineer and there is no use trying to pretend he is. The so-called firemen often picked up to run small heating systems during the winter months often are just as bad, if not worse, than the ordinary house owner or occupant.

Figuring Radiation by Various Methods

The start of all heating is the calculation of the amount of heating surface required. This may be done by a very simple method or it may be entered into with much complication. Probably the easiest method producing fairly consistent results is the old Mills Rule often referred to as the 2-20-200 rule. This is because the glass surface—according to this rule—was divided by 2, and cold wall, ceiling and floor surface by 20, and the cubic contents by 200. This is based on the assumption that one sq. ft. of steam radiator surface will offset 2 sq. ft. of outside glass surface, 20 sq. ft. of outside wall surface, cold ceiling or cold floor, or 200 cu. ft. of room contents. This rule if used with corrections for exposure does give pretty good results. Its application is illustrated in the following:

A room 10 x 14, see Fig. 3, has the 14 ft. side exposed to the weather on the north and in this side has two windows each 3 ft. x 5 ft., and one door 3 ft. x 7 ft. If the room is 12 ft. high what amount of radiation will be required to hold the temperature at 70 deg. Fahr., inside when it is zero outside and the exposed wall faces north?

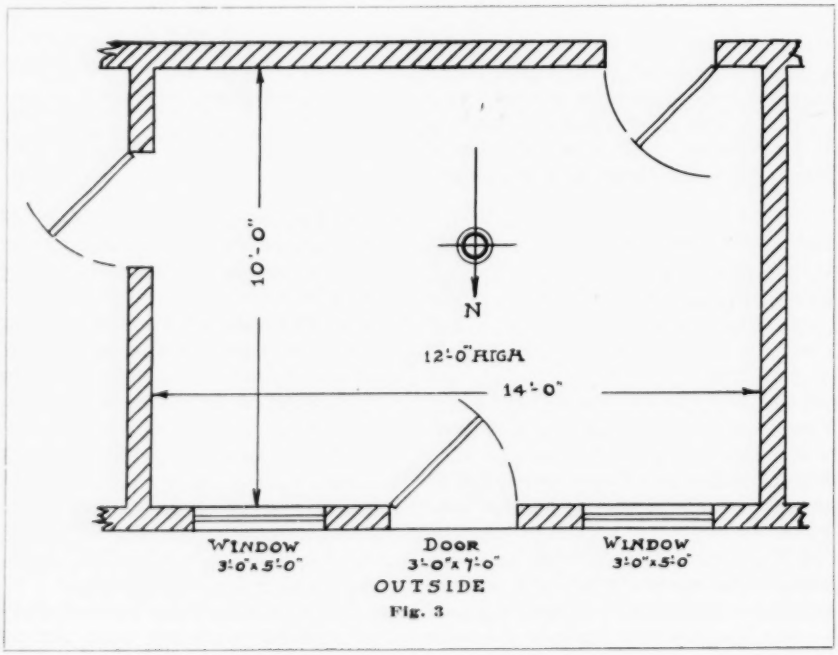


Fig. 3

Gross Wall Area, 12 ft. x 14 ft. ..... 168 sq. ft.
Two Windows 3 ft. x 5 ft. ..... 30 sq. ft.
One Door, 3 ft. x 7 ft. ..... 21 sq. ft.

Total Glass Area ..... 51 sq. ft.

Net Wall Area ..... 117 sq. ft.

Cubic Contents, 14 ft. x 12 ft. x 10 ft., or 1,680 cu. ft.
Glass Area, 51 sq. ft. /2 is ..... 25½ sq. ft. of Rad.
Wall Area, 117 sq. ft. /20 is ..... 5¾ sq. ft.
Cubic Contents, 1,680 cu. ft. /200 is 8½ sq. ft.

Total Radiator Surface ..... 39¾ sq. ft.
Plus 25% for North Exposure ..... 10 sq. ft.

Total Radiation Required ..... 49¾ sq. ft., say 50 sq. ft.

If hot water surface is to be used, add 60%, thus:

Surface for Steam System ..... 50 sq. ft.
Add 60% for Hot Water ..... 30 sq. ft.

Hot Water Surface Required ..... 80 sq. ft.

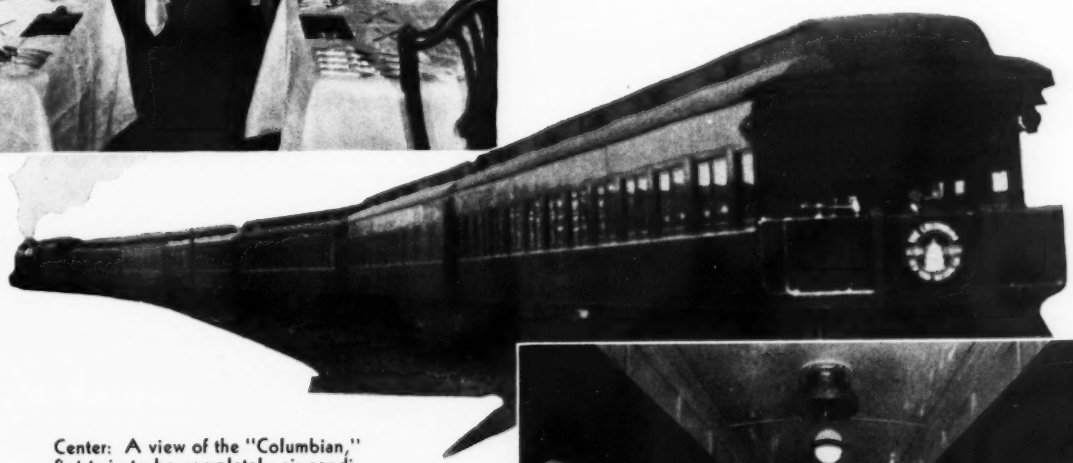
This rule can be proved to be fundamentally inaccurate, however, as the loss from glass at 70 deg. Fahr. temperature difference is very close to 77 Btu. per hr., while the heat emitted from heating surface now is practically all based on 240 Btu. per nominal sq. ft. of surface. Under these conditions the ratio of radiator sur-

(Continued on Page 123)

The First Air Conditioned Train In Railroad History

The Baltimore and Ohio Railroad Co.'s "Columbian," running between New York City and Washington, D. C., is the first completely air conditioned train in the world. It is a forward step in repopularizing travel by rail, which has greatly increased the number of passengers.

Left: Interior view of the Colonial type dining car which is operated on this train.



Center: A view of the "Columbian," first train to be completely air conditioned, leaving Washington for New York.

Bottom: The club lounge car on the "Columbian" train of the Baltimore and Ohio Railroad.

Walk along the better residential streets. Locate your sales demonstration—a fine lawn with its sprinkling system in action. Then show it to your prospective customers

Lawns—a market for plumbing service

"SEVENTY-FIVE per cent of the golf courses east of the Rockies and north of Arkansas have suffered serious damage this summer," says the editor of a golf magazine. If this is true of golf courses, which are much cared for, how about the hundreds of thousands of private lawns where the owner can see to the watering only in his leisure time?

Here is a market of great proportions awaiting development. And now, when home owners are looking disconsolately at cracked and burned lawns, is the time to talk sprinkler systems for systematic, regular, controlled watering.

Read the article commencing on the next page—it tells the experience of a contractor who is selling and making actual installations.

Sprinkler Piping Designs as Described by an Experienced Contractor

Fig. 1—This job was designed so that the lot, next door to the house outside of the picture on the left, might be sold without causing any great changes in the system serving the grounds retained. The sprinklers operating include two circuits as shown in the lay-out in Fig. 4

By WM. W. STEVENS

Now is the time to sell sprinkling systems because many expensive lawns have been burned for lack of proper and regular watering. Home owners will be receptive to your sales presentation. The installations and experiences described in this article will serve as additional background for you.

PROSPECTS for sprinkling systems may be obtained by anyone who is able to walk or ride down the better residential streets in a community and observe which lawns show that care and money have been expended on their upkeep. If the observer wishes to do a better job of classifying the likely prospects, he may note which lawns are suffering from a lack of proper and regular watering. When a drought strikes a section, of course, people are in the best frame of mind to take preventive measures.

However, the work has just begun when the prospect list is made and the same is true even when the contract for the installation of the system is signed. Therefore, this article is devoted to a description of several actual jobs in order to present information which will serve as a guide for the operations in the important interval between the signing of the contract and the acceptance of the completed job by the owner. A previous article in this series which appeared on August 8 considered principally the details which entered the piping installation within the house. This article will take up the features of the piping outside of the house and the ideas and practices described are those which have been developed by Andrew Mc-

Fig. 2—This view corresponds to the plan shown in Fig. 3. Only the front lawn circuit is operating and is controlled by a valve on the far side of the sidewalk, where the man is standing. This feature is important as it prevents the operator from becoming wet

Cann, who is a plumbing contractor located on the south side of Chicago serving one of the better residential sections of the city.

Fig. 1 shows one of his installations in operation which turned out to be a very interesting job as a result of working to the owner's plans for future possibilities. The view shows two circuits of the system in operation. In all, there are four sections. It will be noted that these two circuits are in the vacant property to the right of the house. Referring to the plan view shown in Fig. 4, it will be seen that they are divided into front and rear circuits. The owner anticipated that some day he might sell the lot next door to him, and in this event he would not wish to either water his new neighbor's lawn with his system or go to a great deal of expense to make the necessary changes. By having the sprinklers serving the vacant area on a separate circuit, to cut them out of the owner's system it would only be necessary to remove the two valves shown in the middle of the plan and cap the ends of the main supply pipes. As for the sprinklers in the parkway, here it would be necessary to dig down about twelve inches, break the pipe at the first sprinkler head beyond his property and cap the pipe.

The parkway sprinklers are served by a separate circuit and the fourth circuit serves the sprinklers which water the ground immediately surrounding the building. The plan in Fig. 4 is an accurate representation of the piping that is installed. The full sprinklers are shown by crosses and the half sprinklers are indicated by vees. A 2-in. main was carried in from the street at a depth of about 4 ft. While the trench was still open, three drain pipes were laid in it with the main. Referring to Figs. 1 and 6, it will be noted that there is a terrace in back of the sidewalk. The front line sprinklers inside of the sidewalk cover the terrace at the low sidewalk level. Also the parkway sprinklers are below the main sprinklers in the lot and around the house. Because of this difference in elevation, and because it is most economical to keep the piping as close to the surface as possible (minimum being approximately 12 inches), the parkway sprinklers and the lower terrace sprinklers drain into the three pipes which were placed in the trench. These pipes are carried into the basement and the end of each is supplied with a drain valve. A fourth drain valve takes care of the rear circuit in the lot.

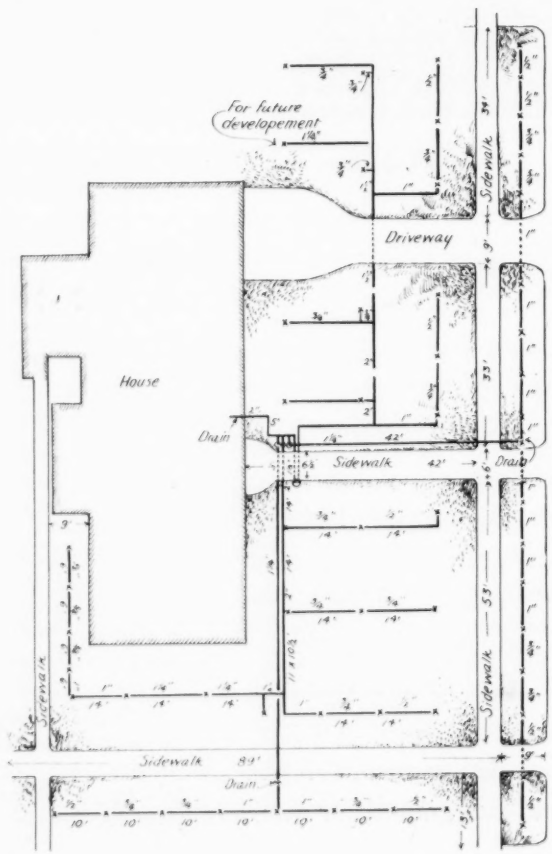


Fig. 3—One of the interesting features of the plan and installation shown is in the control valves, all of which are located at the one point. Also, the system was designed to drain to only three points

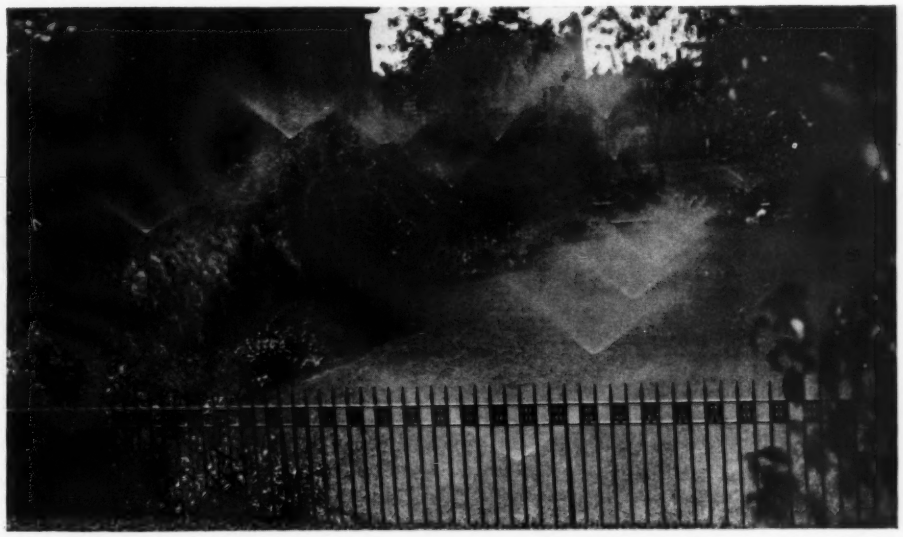


Fig. 5—This is a very good view illustrating the use of elevated sprinklers for shrubbery. As the shrubs grow, sometimes it is necessary for the contractor to change the length of the pipe support

This also is in the basement. One of the points emphasized by Mr. McCann in his installation work is the location of drain valves. He endeavors to pitch his lines so that a minimum number are required and these he makes sure to place in conspicuous and easily accessible locations. Another feature which he stresses is the installation of a globe valve for the main shut-off. It will be noted in Fig. 5 that on either side of the meter there is a gate valve and between the meter and the system there is a globe valve. The reason he advances is that a pebble may get washed into the line and prevent a gate valve from seating completely.

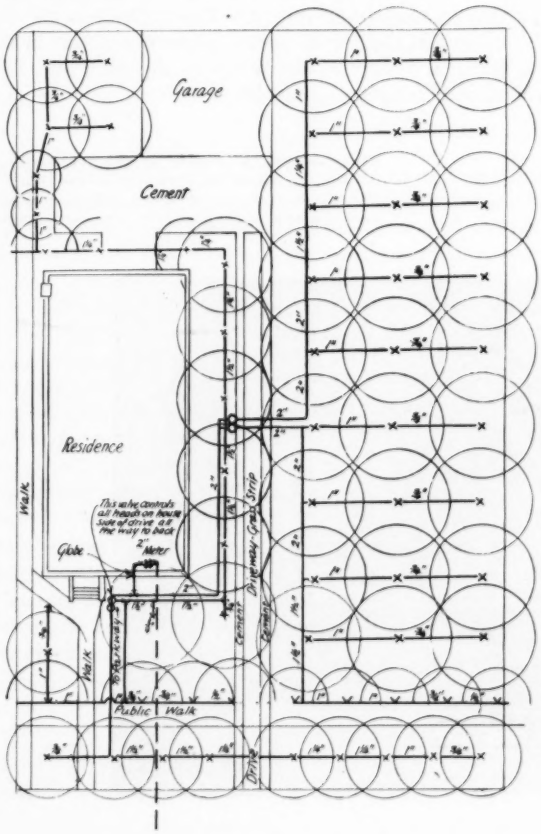


Fig. 4—This shows the piping for the system shown in Figs. 1 and 6. Note how easy it would be to cut off the two circuits in the lot in the event the area were sold. This feature was designed for by the contractor

He has found it best practice to install parkway sprinklers on separate circuits so that they may be operated independently. While sprinklers are designed to cover only limited areas, the wind presents a variable factor which may blow the spray a considerable distance. If sprinklers should be operated on both sides of a public sidewalk at the same time, it is quite probable that pedestrians would find it difficult to pass without getting wet, especially when the ordinary sprinkler will cover about one-fourth of the sidewalk under normal conditions.

In parkway sprinkler designs there are some variations in practices. In some instances half sprinklers are located along the edge of the parkway and in other instances a line of full sprinklers is run down the center. When half sprinklers are used it is necessary to install them on both sides of the parkway in order to get complete coverage. Also, they should be staggered for best results.

A second interesting installation which was developed is featured in Figs. 2, 3 and 7. The plan in Fig. 3 shows that this also was worked out as a four-circuit job. The parkways comprise two of the circuits and the front and rear lawn sections comprise the other two. A 2-in. main serves the valve headers coming out of the basement. The placing of the supply valves is an important feature from the operator's standpoint. One of the rules to follow is to always locate them so that the operator can see what the sprinklers are doing while he is turning on the valves. If the valves are located in the basement or in some equally out-of-the-way place, someone may be on the lawn and may be exposed to a disagreeable wetting. In addition, it is most convenient if all of the valves are located in one spot. This was done in the case of the system shown in Fig. 3, and in Fig. 2 the operator may be seen turning on the front set of sprin-

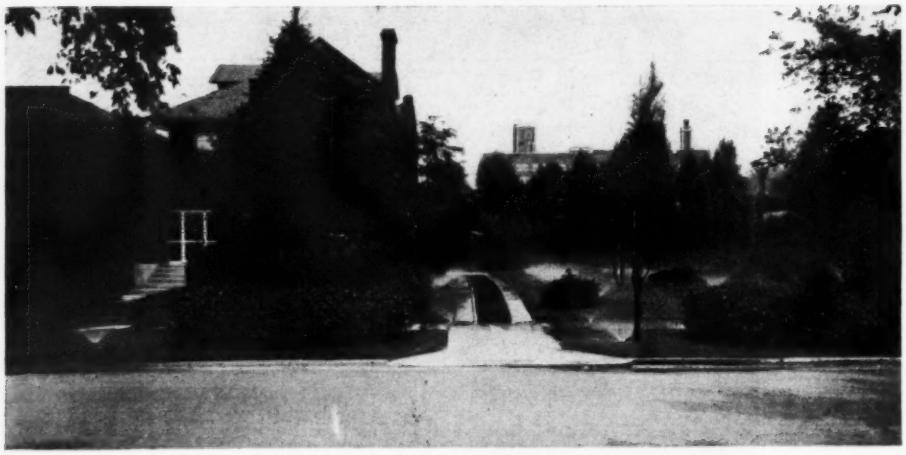


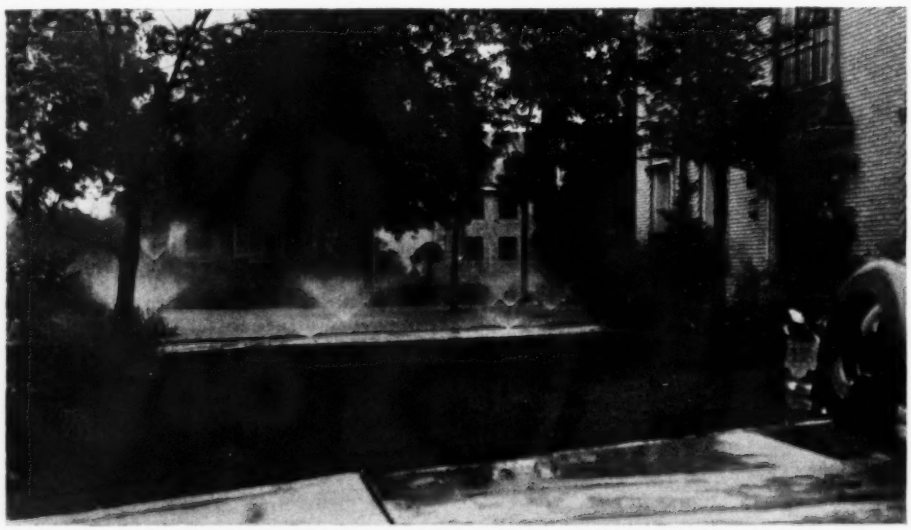
Fig. 6—In the office of Andrew McCann, the plumbing contractor who made all of these installations, this job is known as the Edward T. Kelly residence. The view should be connected with Figs. 1 and 4. It shows what luxuriant grass and foliage may be developed with the aid of a sprinkler system. Note that in this case the parkway sprinklers were located as full sprays in the center of the area

klers. Notice from the piping layout that when the front sprinklers are turned on the valve is operated on the side of the walk farthest from them and in order to work out the same convenience for the rear sprinklers, the piping crosses under the sidewalk twice. The plan shows three drain points for the system. As in the previously described system, the main sprinklers are located on ground at an elevation above the parkway sprinklers. Accordingly, the two parkway circuits are served by drains located at their approximate centers. The sprinklers on the main lawn drain back into the basement to the supply mains. The owner at some future date expects to install sprinklers in the garden space at the rear of the building, thus accounting for the 1¼-in. line which now serves one sprinkler head.

A very good example of elevated sprinklers is seen in Fig. 5. These were installed in a third job and are operated from the same circuit which includes the lawn sprinklers.

One of the features which Mr. McCann watches very closely when drains are placed is their position. He locates them at a minimum of 2 ft. from the end of the line and he never allows them to be installed so that the branch connection of the tee points downward. When sand and pebbles are washed into the system through the sprinkler head or in any other way, it is natural for them to be carried to the end of the line. If the drain were located at that point, they would be forced into it and would stop its operation. In a like manner, if the branch of the tee is pointed down and if the drain is located under the line, this foreign matter is liable to be washed into it. His practice is to turn the tee so that the branch points sidewise, and this brings the drain on a level or slightly below the main line, with a minimum danger of stoppage.

Fig. 7—Here is a view of the front circuit operating which is outlined in the plan of Fig. 3. One of the elevated shrub sprays is seen in the corner of the property at the left



Gas Enters House Cooling and Air Conditioning Field

This is the second part of a paper, the first installment of which appeared in our issue of August 8. In this concluding part Mr. Milener* gives the details of the tests now being conducted in three houses, where gas is being used for air conditioning

STUDYING the entire subject from these angles, the committee on industrial gas research pointed out in its report last year that it had determined that regardless of the final outcome of the discussions regarding the practicability of various details concerning possible methods of air conditioning that are going on within the heating, ventilating and architectural professions, it had become convinced that heat energy was the only type of energy that could eventually meet all the conditions encountered. It, therefore, considered it to be its duty to encourage the development, with gas energy, of all the various possibilities of air conditioning. The committee also felt that the entire program could be advanced most rapidly by first concentrating on the methods and systems that were already farthest advanced in applying heat to summer air conditioning.

Investigations showed that the greatest progress had been made in the development of a system based on the properties of a substance known as silica gel.

At this point it is well to describe just what silica gel is. It is a hard, glassy material with the appearance of clear quartz sand, made from sodium silicate and acid. In fact, its chemical analysis is exactly the same as sand, just as the chemical analysis of a diamond is the same as that of carbon.

Silica gel differs from ordinary sand or silica because of its highly porous structure. The pores in a particle of silica gel are so small that they can not be seen, even with the aid of the most powerful microscope, because they are smaller than the wave length of light. But it is known that they are there because of the way the "gel" acts.

For example, a quantity of silica gel placed above water in a closed vessel will adsorb, or take up, water vapor to the extent of 40 per cent of its own weight, and the silica gel will appear perfectly dry and not increase in volume. If we now apply heat to the gel, this water vapor will be driven out, and the gel will be rendered capable of adsorbing a like quantity again. This cycle can go on indefinitely without impairing the efficiency of the gel.

Substantially, therefore, it is a solid adsorbent material that has such a marked ability to adsorb moisture that air can be immediately dehumidified by simply passing it through beds of gel. Thus, at one stroke, the biggest and hardest job connected with summer air conditioning is done in a simple manner without the use of high pressures, without the use of refrigerants of any kind, and without the necessity of having to comply with codes necessary to protect the public when large quantities of refrigerating liquids and gases are under pressure. After the beds of gel have become saturated with

*Presented at natural gas department, American Gas Association convention, Memphis, Tenn., by Eugene D. Milener, who is Industrial Research Representative, American Gas Association, New York, N. Y.

moisture from the air, gas heat is used to drive this moisture out into the atmosphere and the gel is ready to again adsorb moisture from the air like a super-thirsty sponge.

The advantage of silica gel, from an air conditioning standpoint, lies in the fact that it is possible to control the humidity of the air independently of its temperature, and that a much lower humidity can be attained, if desired, than is practical by other methods. By means of this system, any desired conditions can be maintained with equipment which does not require skilled operators for its control, a very important point especially in residences.

As I stated before, the *greatest* amount of heat is used in this process of dehumidifying the air. The other process, that of cooling the air, requires the *least* amount of energy, and the cooling can be done by water coils, by the use of comparatively small gas refrigerators or by other means.

"The requirements of a refrigerating machine for summer air conditioning are different from those of a refrigerating machine designed for cooling ice boxes and refrigerators. For air conditioning the refrigerant must be absolutely non-toxic and non-inflammable and should be non-corrosive to metals. The machine should be fully automatic, must be able to maintain constant temperatures and respond instantly to demand or variation in load"

Air Conditioning Depends Upon Heat

As will be seen, this system is inherently tied up with the use of heat as the source of energy. It is also the first system using heat energy that has been brought to the point of full size practicability.

The three houses that the committee will air condition with gas this summer are located in three different parts of the country. One is on the Atlantic seaboard, one is in the Middle West, and the third will be located in the South. It can be seen that by this geographical distribution a variety of climatic conditions will be encountered and a most comprehensive mass of data can be collected. These are the first houses completely air conditioned the year round with gas. Each of these houses is heated in the winter with a warm air furnace that has met the approval requirements of the American Gas Association, which in winter heats the air, humidifies it, cleans it and circulates it by means of a fan. Air is distributed to the various rooms of the houses through conventional warm air ducts and returned to the furnaces through large return pipes. The summer air conditioning equipment will supplement the gas heating furnace and the same duct system will be used with slight alteration in distributing the cooled and dehumidified air.

Co-operating with the committee on industrial gas research in these tests and demonstrations are the Consolidated Gas Co. of New York, the Peoples Gas Light & Coke Co. of Chicago, and the Dallas Gas Co. of Dallas, Texas. One house is located in the territory served with gas by each of these companies. In addition, the owners of each house are showing a degree of enthusiasm that is most gratifying and encouraging.

This development of a new method of air conditioning buildings in summer, using gas for this purpose for the first time, and completely separating the two processes of dehumidifying and cooling is due to research and field work of the Silica Gel Corp., of Baltimore, Md. As the process is inherently tied up with the use of heat, as contrasted with other forms of energy, the committee on industrial gas research has co-operated to the fullest extent in the development work. The plans for the three residential jobs were completed and small-sized models made. These plans and models were based on research and experience gained in connection with conditioning the air in large commercial buildings.

Summer Air Conditioning Closely Tied in with House Heating

In many ways the development of summer air conditioning may be likened to the early development of gas house heating. There is, however, one very interesting difference. That difference is that gas house heating in the beginning made its appearance in residences, first in natural gas territory and later in manufactured gas territory. Heating of commercial and public buildings with gas followed the early work in residences. Summer air conditioning, on the other hand, first made its appearance in public and commercial buildings, and is only now, through the efforts of the American Gas Association, actually expanding into the larger and more inviting residential field.

Research in Air Conditioning by Means of Refrigeration

The committee on industrial gas research has been encouraging, and following very closely, the research being carried on in applying gas refrigeration to summer air conditioning. This work, as stated in the last annual report of the committee, is being carried on by the Carrier Engineering Corp., of Newark, N. J.

The requirements of a refrigerating machine for summer air conditioning are different from those of a refrigerating machine designed for cooling ice boxes and refrigerators. For air conditioning, the refrigerant must be absolutely non-toxic and non-inflammable and should be non-corrosive to metals. The machine should be fully automatic, must be able to maintain constant temperatures and respond instantly to demand or variation in load.

All parts of the machine should operate at or below

atmospheric pressures so that there can be no outward leakage or pressure. The refrigeration process must be continuous when desired. It should be simple in construction and free from maintenance. It should be economical in the use of gas and water. It should be capable of being produced economically.

Refrigerating machines for air conditioning need only be capable of reducing the temperature to about 35 or 40 degrees F., whereas commercial refrigerating machines must be capable of reducing the temperature of air or brine to a point far below 32 deg. F. Because of this comparatively high working temperature of air conditioning refrigerating machines it is possible to cause them to circulate cold water through coils placed in the air ducts instead of having to use brine. The air which is delivered into the conditioned space is cooled and dehumidified by passing over these cold water coils.

"Private dwellings will prove to be the most profitable phase of summer air conditioning, as it has proved to be the most important factor in gas house heating. Within less than five years complete summer residential air conditioning will become quite general in the better grade dwellings and will be seriously considered by everyone building a home within that class as well as by owners of old houses. Negotiations are now under way for manufacturing gas operated air conditioning equipment"

An experimental model incorporating the above principles has been constructed by the Carrier Corporation and is now being tested in the laboratory. It is expected that these tests will lead to refinements of construction and operation that will make it possible to project the work to the point of field tests within a reasonable time.

The vast experience of this organization in the air conditioning field is being put back of this effort, and there is no doubt that it will eventually prove to be a large factor in projecting gas into the field of summer air conditioning.

While the residential field will probably prove to be the largest outlet for gas for summer air conditioning, there is an immediate field in many commercial and industrial applications. Stores and shops of all kinds, especially department stores and high-grade specialty shops, banking rooms, crowded work rooms, office buildings, restaurants and dining rooms, hospitals and theaters, all are beckoning to gas men to some day deliver gas to them for year round air conditioning. Gas has heeded their call in the winter time and is now furnishing buildings of all types with reliable heating and winter air conditioning service. Will gas live up to its reputation of being able to readily meet changing conditions and to meet the increasing demands of its users for greater service? I believe that it will, and that from now on gas will be an increasingly important contender as a source of energy for air conditioning in the commercial and industrial field. But of still greater importance, gas will be the medium through which summer air conditioning will enter the American home and fulfill the dream of complete, automatic, year round comfortable air conditioning, a service that home owners have pleaded for but which has heretofore been denied them.

Last year work in conditioning large buildings with gas had advanced to the point where a bank building in Baltimore was very successfully air conditioned throughout the entire summer. This building consists of a large banking room with 45 ft. ceiling and several stories of offices with conventional 12 ft. ceilings.

The success of this installation and the hearty endorsement of the owners is most gratifying to the research committee, because it proved out the principles upon which the committee based its decision to immediately proceed into the residential field.

Residential Field an Inviting One

I am sure that if history repeats itself, private dwellings will prove to be the most profitable phase of summer air conditioning, as it has proved to be the most important factor in gas house heating. I predict that within less than five years, complete residential summer air conditioning, the kind that burns gas in the summer time, will become quite general in the better grade dwellings and will be seriously considered by everyone building a home within that class, as well as by owners of old houses with warm air furnaces.

Negotiations are now under way which will result in arrangements for manufacturing, on a large scale, gas operated summer air conditioning equipment based on the principles developed in the work I have described. Full and complete results of the operating experiences in the test residences this summer will be made available to the gas industry, so that gas companies will know the operating characteristics and the load characteristics, and can intelligently plan future activities along this line. In other words, the subject of complete summer air conditioning with gas is being taken out of the field of possibilities and is being put into the category of realities.

Description of Installations of Summer Air Conditioning with Gas

As stated above, a large bank building in Baltimore was air conditioned last summer with gas in a most satisfactory manner. In co-operation with the committee on industrial gas research, officials and engineers of the Dallas Gas Co., Dallas, Texas, made a careful investigation of this installation to determine its adaptability to conditioning the air in the new general office build-

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California Electrical Group Proves Merchants' Ability to Match Selling Effort of Utility

By F. J. CONNOLLY*
Executive Secretary, Southern Chapter, California Electragists

SIX months of the Long Beach dealer electric range merchandising have passed. This report, therefore, is presented for the benefit of the many who have expressed an interest in the experiment and who are anxious to know how it has worked out so far.

The Southern California Edison Company announced on September 18, 1930, that effective immediately, it would withdraw from merchandising in Long Beach until December 31, 1931, thus giving the local dealers fifteen months in which to demonstrate by trial whether it was necessary or not for the company to be active in the direct sale of merchandise in order to continue its present rate of growth.

Working Out the Plan

During the next three weeks the dealers held five meetings, trying to work out a mutually satisfactory plan with the Edison Company, and finally, on October 14th, a plan was agreed upon, which was briefly as follows:

The Edison Company was to maintain a display of electric ranges and refrigerators at its local office with competent persons available to explain their merits, giving prospective customers a card showing the names of all co-operating dealers, and recommending that prospects purchase from one of the dealers listed.

The Edison Company agreed not to make any sales of ranges, water heaters or refrigerators itself. It also agreed to match in inches the newspaper advertising done by the dealers.

The dealers agreed to stock and display electric ranges and aggressively to promote their sale. This naturally included the development of competent sales people, the participation in an advertising campaign, and the development of a system by which to follow up prospects.

The dealers decided to quote installed prices, to limit the allowance for old cooking equipment to ten dollars, and to require a minimum down payment of ten dollars and maximum terms of eighteen months.

Thus six weeks after the Power Company stopped its efforts the dealers began their program and started to organize their businesses to handle this merchandising. In the meantime the salesmen which the power company had in their employ had left the city or were transferred to other districts.

The campaign started with three department stores, two electrical contractor-dealers, two electrical specialty shops, two furniture stores and two hardware stores cooperating. These dealers were unprepared to pick up at once the sales work formerly done by the power company because the announcement of the decision had come so suddenly. Only a few dealers had ever carried electric ranges in stock and none of them understood electric range merchandising. Most of the dealers had never sold an electric range and of course had no sales people properly trained.

In face of all these difficulties the dealers have worked hard and are still enthusiastic over the possibilities of electric range merchandising. Gradually, they have acquired and trained sales people and today five or six of the dealers have competent sales people who are becoming more proficient every day. We are just starting to learn how to do a job which the Edison Company has spent years experimenting with. We have had to train ourselves and have also experienced the usual difficulties in training and holding competent sales people.

Dealers Do Good Selling Job

Sales to date for the first six months of this experiment were approximately 50 individual ranges sold at retail and about 50 sold at wholesale to apartment houses, or a total of approximately 100 for the six months. We are not entirely disappointed with this record but rather feel that a good job has been done, under the circumstances. Under normal business condi-

(Continued on Page 134)

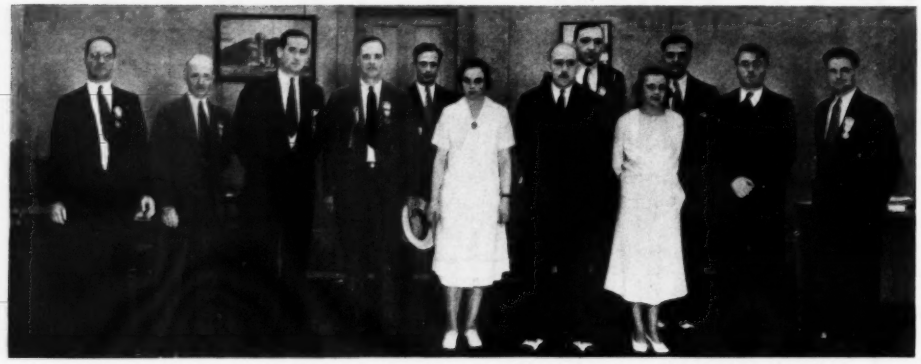
* An address delivered at annual convention of Southern Chapter, California Electragists.

Here is a group of retail merchants which won from a public utility company its agreement to withdraw from the merchandising field for a period of fifteen months. During the first six months these dealers have shown that they can produce as good a volume as the highly trained and expensive sales force of the utility

PLUMBING & HEATING MERCHANDISING

"THE play's the thing," wrote Shakespeare—and elsewhere he said something about the world's being a stage—and all of us but players. It seems that the industry has taken the bard seriously and has set out to make a working stage of the business world, using the undoubtedly vivid qualities of a stage presentation to drive home the sales lessons proper to our own times. In the following pages will be found the script of a sketch used by a prominent contractor to train the men who represent him—and a few sidelights are given on what other members of the industry are doing, under the heading

Industry Putting Forth Vigorous Educational Effort



The cast of one of the stage presentations at the Milwaukee National Convention

Industry Putting Forth Vigorous Educational Efforts

We quote from the latest bulletin of the National Pipe & Supplies Association: "We noted (in answer to questionnaire sent out to 400 wholesalers) that 55% of those who sent in their reports stated they were working out or had worked out plans for salesmen education in an effort to increase their 1931 volume of business." . . . . . The Regional Conferences of the Plumbing & Heating Industries Bureau have become familiar; and the Sales School held in Illinois produced the material that went into the manual for such schools now offered to the industry by the Bureau. Over 100 local groups have asked for the manual to use in conducting sales schools this fall. The script shown in the following pages is one turned out by Thos. Haverty Co., of Los Angeles

Executive of Thos. Haverty Co., Los Angeles, Describes Sales Training Method

OUR salesmen are not only salesmen, but are mechanics who have been through the mill either working as superintendents on large construction or equivalent. They are all men of broad experience in the business of Plumbing, Heating, Ventilation, Air Conditioning and Automatic Fire Sprinkler Systems, and in fact they are mechanical and sanitary engineers of great experience.

Our next step, of course, after securing the desired prospects for salesmen is to teach them estimating, making quantity surveys, and taking off correct material lists; our next step following that is to teach them salesmanship. This is what we do at our sales meetings.

Preparing for a Sales Meeting

Subjects of discussion to come up before our salesmen are usually outlined thirty to sixty days in advance of the assignment, the time elapsing between the date of assignment and the actual date of discussion gives the salesman an opportunity to familiarize himself with his subject. The time

allowed on any one subject is twenty minutes, each sales meeting taking care of approximately three or four assignments.

Of course, most of our assignments as to the practical end of salesmanship are usually made a week previous to their meeting. This sort of a meeting goes into the actual estimating and selling, closing and signing of contracts, bringing out and overcoming actual sales resistance.

In order to demonstrate this end of salesmanship, we secure from the audience what we term to be a hard, cold-blooded prospective buyer who has plans and is going to build and is in the market for plumbing or whatever it may be. This hard, prospective buyer takes his position at a desk in front of his audience and the salesmen one at a time interview this prospective buyer, securing the plan, and after a few minutes' elapse of time return and present their bids. This is carried on probably for weeks at a time until every salesman in the organization has been through the same routine. From the time the salesman presents his bid to the prospective buyer there is a discussion between the prospect and the salesman, the salesman overcoming the sales resistance and the prospect endeavoring to chisel and secure two dollars' worth of value for one dollar. After the salesman has overcome all resistance and finally secured the signature on the dotted line of the contract, this salesman usually receives the applause from the audience in the measure of his ability as a salesman. The approach and opening of the interview is watched with great interest, as are the arguments and the overcoming of sales resistance. After these sales, the audience either criticises or compliments the salesman on the methods used to make the sale.

Demonstrations Valuable

We feel that this sort of education in salesmanship is beneficial not only to the employer, but to the employee himself, as it creates great confidence and ambition in the salesman to secure more and profitable business, and not only does this, but creates confidence in the salesman to get up before a body of people and express himself freely without becoming nervous. This feature alone has been very beneficial to our men.

Of course, you realize that in order to conduct successful sales meetings you have to bring humor and changes in with dry subjects to make them interesting. Therefore, we could not continually conduct our sales meetings on salesmanship alone, so we turn to the discussion of the manufacture of commodities that enter into our business. This is usually done by taking our salesmen on a tour of inspection through the enamelware plants, the pottery plants and other manufacturing plants located in the city. After these inspection tours we assign certain salesmen to explaining the general outline of the manufacture of the articles they have inspected. In this way we bring out the object of knowing your wares. For articles manufactured out of the city we secure motion pictures. These films are free of charge with the exception of paying the express to and from shipping point. We have secured a great many reels from the Department of the Interior, Bureau of Mines, Experiment Station, Pittsburgh, Pa. We have also secured reels from the University of California of Berkeley, and the University of California, Southern California Branch of Los Angeles, and manufacturers who have exhibited films showing the making of their products.

We also bring into our sales meetings manufacturers who are allowed fifteen minutes to demonstrate the different materials and equipment they manufacture.

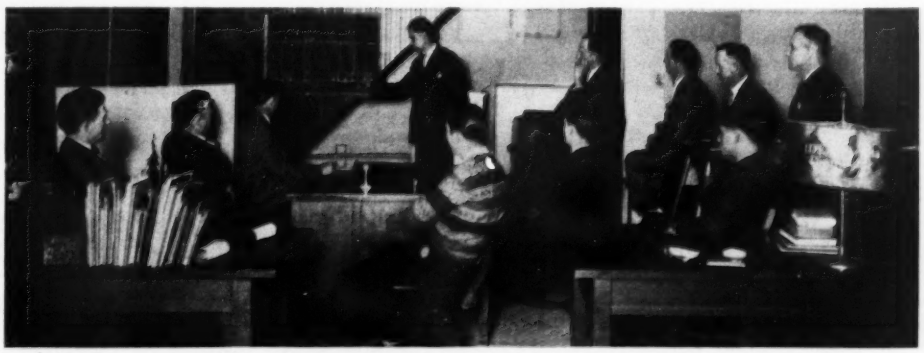
A "Play" from Life

One of the most interesting sales meetings that we have is when we actually produce a play written around some actual sale made by one of the salesmen. On these occasions, not only the salesmen are present, but the majority of the people in the organization who find great pleasure and gain considerable knowledge by attending.

After reading this play you will probably be impressed with the fact that wherever possible and where the opportunity presents itself we endeavor to co-operate with specialty men, such as water heater salesmen, brass salesmen, enamelware salesmen, etc.

We feel that through this co-operation we not only have one salesman working in the effort to secure the contract, but we have three or four working with us, and in this way we have secured a great amount of business, not only at our competitors' prices, but at a preference.

You will note after reading this little play that it is the object of the Thomas Haverty Company in order to secure business not to tear down specifications by installing cheaper or inferior material to meet prices, but to build the job up by installing better material, higher class fixtures, even painting the picture in the prospect's mind by bringing in color harmony and advising him as to what the requirements are for a building of his design. In this way we create confidence in the buyer, which means a satisfied customer and a repeated order.



This is a class in a heating dealer's office

A "Play from Life"

As produced by the Thos. Haverty organization of Los Angeles, Cal.

ACT 1

Time: 7:30 A. M.

Scene: Estimating Department, Estimators sitting at table going through their usual morning routine.

O'BRIEN: Say, fellows, where's the boss?

WILLARDSON: He was here at 7:15 and said he was going over to make an adjustment and would be back later.

VORIES: Christenson must be sleeping in. It sure is hard to get out of a warm bed these cold mornings.

O'BRIEN: Here he comes now.

CHRISTENSON: Where's the boss?

VORIES: You know what he would say if he was here.

CHRISTENSON: Yes, he would take his watch out like this, and say "If my watch is five minutes fast you are on time.

VORIES: And the way he says it makes you feel that you are two hours late.

O'BRIEN: Yes, the boss believes in the old saying, that the early bird catches the worm.

WILLARDSON: Take it from me, if you want to get business you have to work on them early.

CHRISTENSON: Did he get any good prospects this morning?

WILLARDSON: Wait till I see. (Opens his envelope—pulls out a couple of calls and reads them.)

CHRISTENSON: Look at all these permits. I think I will be busy today, boys.

VORIES: Look what I drew. (Reads a couple of calls.)

O'BRIEN: Boys, here sure is a hot one—listen to this. (Reads call.) "Watch me take this fellow like Grant took Richmond!"

O'Brien takes telephone and calls Prospect 1234.

O'BRIEN: Hello, Mr. Johnston, this is O'Brien of the Thomas Haverty Company. We would be very pleased to present a figure on the plumbing for your apartment house. Are your plans available this morning?

JOHNSTON: I'm afraid you are too late, Mr. O'Brien. I am letting the plumbing contract today.

O'BRIEN: It isn't too late for me, Mr. Johnston, if you haven't let your plumbing. I can figure it over in your office, or if you can let me have the plans it won't take me over three or four hours. The reason I am so anxious to present a figure, Mr. Johnston, is that we specialize in your type of construction and feel satisfied that our figure will interest you if you will allow me to present it.

JOHNSTON: Well, you will have to make it snappy. I will be in my office until 10 A. M.

O'BRIEN: All right. Thank you, Mr. Johnston. I will be right over. (Turning to estimators) Well, so long, boys, I've got to step fast to get this one.

WILLARDSON: Well, boys, I guess we will all have to be stepping. It is nearly 8 o'clock, and we don't want the boss to find us in here. You know the early bird catches the worm!

Estimators leave.

ACT 2

Announcer: This scene represents Mr. Johnston's office with Mr. Johnston sitting at his desk. Time: 8:15 A. M.

HESS: Hello, Scotty; I came up here bright and early to see if we couldn't sign up on this plumbing contract of yours.

JOHNSTON: Well, Frank, just a few minutes ago while I was sitting here looking over your fixture list the telephone rang and someone by the name of O'Brien called. I believe he is connected with the Haverty Plumbing Company. He said he was very desirous of making an estimate on that plumbing and advised me not to do anything until I had seen him. I told him it was too late, but he insisted upon seeing me. So I expect him at any moment.

HESS: Well, Scotty, I think you will find the Haverty Company good, reliable people, but you promised me last night you were surely going to give me this business and I have come over for same.

JOHNSTON: Frank, I promised you this business if your price was right, but I also promised this other young man that I would wait here for him and my word is as good as my name, so just be patient.

HESS: Haven't I always been patient?

JOHNSTON: Certainly, you are right, Frank. But let's get back to this plumbing job. Do you think the plumbing fixtures you have selected for my building are O. K.?

HESS: In making a selection of the plumbing fixtures for your building I have taken into consideration something that will be modern and up to date, but not of an expensive nature. I have selected the best plumbing fixtures for the amount of money you wish to spend.

JOHNSTON: Well, I guess they will be all right. We will see what this other fellow has to say, but remember this—when you start this job I want you to be on your toes because I don't want my men held back. I am going to shoot right through with it—you understand that, don't you?

HESS: Well, you know we handled your last job, and we never held you up, did me?

JOHNSTON: No, Frank, you did fine on that last one. If you do as well on this I will be satisfied. Say, by the way, I think I will sign your contract right now.

(There is a knock.)

JOHNSTON: Come in.

O'BRIEN: Good morning, Mr. Johnston.

JOHNSTON: Yes.

O'BRIEN: I'm from the Haverty Company. (Presenting card.) O'Brien is my name. I didn't lose much time getting here, Mr. Johnston, as I know you are in a hurry for your bid.

JOHNSTON: I am afraid you're too late, Mr. O'Brien.

O'BRIEN: Well, I came a long way, Mr. Johnston, after talking to you this morning—and if you will give me half a chance it won't take very long to give you my figure.

JOHNSTON: Meet Mr. Hess, Mr. O'Brien. You plumbers should know one another.

O'BRIEN: (Shaking hands with Hess.) I'm mighty glad to know you, Mr. Hess. I know most all of them in L. A. and it is always a pleasure to meet another.

HESS: Glad to know you, Mr. O'Brien.

O'BRIEN: (Looking at plans lying on Johnston's desk.) Are those your plans, Mr. Johnston?

JOHNSTON: Yes, O'Brien, these are the plans.

O'BRIEN: (Walks over and looks at them.) This is quite a nice layout.

JOHNSTON: Yes, I think so.

O'BRIEN: I see your selection of an architect is a very wise one,—we run across his plans quite often, and he seems to be a very well known man.

JOHNSTON: Yes, I have had this architect draw plans for me before and he certainly knows his business.

O'BRIEN: Have you a specification?

(O'Brien puts plans under his arm.)

JOHNSTON: Yes I have, but I haven't got it here at this time. I will give you a list of what I desire. (Looking at a bid he has on his desk.) What do you think of this heater as manufactured by the XYZ Water Heater Company?

O'BRIEN: That heater is O. K., and the capacities are correct. I'll be glad to figure the same.

JOHNSTON: (Reading fixture list.) Washdown toilet combinations, birch mahogany seats, California tubs, over rim fittings with showers, wall lavatories, sinks with plain sink bibbs, trays, heater, etc.

O'BRIEN: (With pencil and pad in hand writing down what J. is saying.) By the way, Mr. Johnson, if you can step out to my car a minute I'll be very glad to show you the new shower fitting being used universally in just your type of construction. I'm sure if you see it you'll like it. I also have some other samples there that might interest you.

JOHNSTON: I haven't the time to go out to your car this morning, O'Brien.

O'BRIEN: It isn't that I don't want to bring them in, Mr. Johnston, but they are packed in my car and so nicely arranged that you can see the contrast and beauty in them.

JOHNSTON: Well, Frank, let's go out and look at them.

HESS: You go on, Scotty, and I will see you later this afternoon. (Leaves office.)

O'Brien and Johnston leave office together.

Announcer: O'Brien and Mr. Johnston are now at O'Brien's car.

O'BRIEN: (Showing samples.) I'm sure if you give us a chance to figure these in it will give you a real job with all the modern up to the minute innovations in plumbing and save you some money, too.

JOHNSTON: (Looking at samples.) Yes, I like these, Mr. O'Brien. You can figure them and I'll have the other plumbers revise their bids and figure accordingly, but you will have to hurry, as I'm ready to let the job today. Don't forget, O'Brien, I want you back at 2 o'clock with your contract.

O'BRIEN: All right, sir, I'll be there without fail. Thank you. You better take this notation of what to have the plumbers figure.

(Hands him little slip. O'Brien leaves, and Johnston returns to his office. Johnston picks up phone and calls Fair Competition 1928.)

JOHNSTON: Hello, is this the Guarantee Plumbing Company? Put Frank on the wire.

Hello, Frank. That fellow has a new shower fitting (looking at little ticket) he calls the Pacific Jr. and a Pyramid pull-up waste. I like them fine and wish you'd re-write your contract accordingly, Frank. That fellow O'Brien is coming back at 2 o'clock with his contract and we can get the new list from that. Don't worry about this fellow, Frank, as I am simply going to use his contract as a check against yours. Get your prices together and have them ready, and I will phone O'Brien not to come in until 8 in the morning. Operator, give me Haverty 0900.

JOHNSTON: Hello, O'Brien. This is Johnston. I have had quite a few things come up since I talked to you, and I will have to postpone our meeting until 8 o'clock in the morning. I want you to take your proposal to my office and leave it on my desk so I can check it over tonight.

(*Announcer:* It is now 8 o'clock the same night. Johnston has checked O'Brien's proposal, and the scene opens up with Johnston phoning to O'Brien.)

JOHNSTON: Operator, give me Stonewall 4842. O'Brien, this is Johnston. Your suggestion this morning about putting in 10 of the bathroom sets colored is very good and I called you to have those prices ready tomorrow at 8 A. M.

(*Announcer:* This scene represents O'Brien's home. O'Brien telephoning to Mr. Hooper of Pyramid Mfg. Co.)

Sahara 1660.

O'BRIEN: Hello, Hooper; this is O'Brien. I ran across a red hot one today, Fred; a 30-apartment job. I was surprised to find this fellow was ready to sign up today with a close friend of his,

so showed him your line and he is going to have the other fellows figure it too. I would suggest that you meet me at 8 o'clock tomorrow morning at Johnston's office—corner Hope Street and Close Avenue.

ACT 3

(*Announcer:* Time: 8 A. M. next morning. Mr. Johnston's office. Hooper and O'Brien arrive.)

O'BRIEN: Good morning, Mr. Johnston. I want you to meet Mr. Hooper of the Pyramid Mfg. Co.

JOHNSTON: Glad to know you, Mr. Hooper.

HOOPER: Glad to know YOU, Mr. Johnston.

JOHNSTON: Have a seat, gentlemen.

O'BRIEN: Have you my contract there that I left with you last evening?

JOHNSTON: Yes, I have, O'Brien. (Gets it.)

O'BRIEN: I haven't had an opportunity, Mr. Johnston, until now, to tell you what I think is missing that you need in that $6,-150.00 contract. That is just why I have Hooper here.

HOOPER: Mr. Johnston, we manufacture a very practical, distinctive and decorative line of brass goods. This particular fitting which I have here is the Pacific Junior Surface fitting with no valves in the wall and an automatic diverting valve.

(Mr. Johnston takes display board.) You will notice that there is nothing but a brass ell casting in the wall from which the plumber extends three nipples to ½ inch beyond the finished wall line. The fitting itself is then attached by three unions, with

integral stops in the valve, no need of stops in the wall, which is a good thing.

JOHNSTON: Yes, very.

HOOPER: (Shows rough casting.) You will appreciate the value of this self-closing diverting valve. The valve is held out under water pressure while taking a shower and when the water is turned off it releases the pressure, allowing the diverter to go back to its original position so the next time the water is turned on it flows to the tub and not to the shower head. Mr. Johnston, it is impossible to get an unexpected ducking with that fitting.

JOHNSTON: That is good. I like that diverter and the valves on the outside appeal to me.

HOOPER: And it is a very easy matter for anyone to repair. By removing the china shell the fitting is all exposed and may be repaired by anyone. The janitor may use any kind of wrench he cares to in taking that apart, abuse the fitting as much as he likes, yet when the shell is installed after repair here is what you have—remains the same in appearance year in, year out. (Shows complete fitting.)

JOHNSTON: What sort of waste do you recommend?

O'BRIEN: Fred, show him that Pyramid pull-up drain.

JOHNSTON: (Takes pull-up.) The only thing that might be objectionable to that is the fact that one has to reach into the water to drain the tub.

O'BRIEN: Maybe you're right, Mr. Johnston, but there are so many points in its favor outside of that. The fact is, when you are in the tub you're all wet anyway.

HOOPER: Take it from a sanitary standpoint. We manufacture a concealed waste as well as that one, but this closes the water off right at the tub where the concealed waste is closed back here. (Points to concealed waste.) Should this need repair (concealed waste), it might need the service of a plumber, while this here (showing pull-up) can be taken apart and cleaned out, if necessary, by anyone and, unlike the old chain and plug, never parts company.

JOHNSTON: You are right; figure that in, Mr. O'Brien. Now, what about fittings for the ten colored bathrooms? I am sinking the tubs in the floor.

O'BRIEN: Fred, I believe we should show Mr. Johnston your fitting in color. (Hooper goes out to car and brings in the fitting.)

JOHNSTON: That is good looking and no mistake.

HOOPER: And the only silent valve in America. (Explains working parts and decorative features.)

JOHNSTON: I would like very much to have the waste put in such a position that it can be operated before getting into tub.

HOOPER: That is very easily accomplished by using an extra long rod.

JOHNSTON: O. K. We'll figure that in, Mr. O'Brien. Now let's see. We have these No. 265 fitting for 20 tubs and No. 240 for the sunk-in tubs. I want a touch of color in ten bathrooms.

HOOPER: To color the complete fitting would cost you about 33 1/3 per cent. Or you could do this —color the handles to blend with border of tile, also the escutcheon on the shower head. That will

give you just enough color to give you an effect and really that is all that is necessary.

JOHNSTON: All right, we will figure four pieces of coloring.

HOOPER: You are using single sinks in this job?

JOHNSTON: Yes.

HOOPER: In that case I want to show you our all china sink fixture. There is no particular reason for a swing spout in a small sink. It necessitates pulling it out every time they wish to use it. I think you will agree with me that the essential thing is mixed running water.

(Johnston nods his head.)

Now by reducing the roughing in measurements down to 4 inch centers we are able to give you an all china sink fixture which makes a very beautiful installation and easily kept clean year in and year out. (Explains rough casting in case of repairs.) We also use this same fitting on the back of a wall hung lavatory. (Shows lavatory with fitting which will cost $175 additional.)

JOHNSTON: Hooper, your fixtures are very beautiful. You say they are manufactured here in Los Angeles?

HOOPER: Yes, sir. And we are well represented all over the United States. In fact, some of the finest apartments and hotels in New York and Chicago are being equipped with the Pyramid line in color and in using decorative fixtures such as these.

JOHNSTON: Well, approximately how much more will these additions amount to, O'Brien?

O'BRIEN: I have written down a few notations, so let me have the contract and we will go over all that is needed.

(Johnston hands O'Brien the contract.) Two 4-inch C. I. roof conductors from room to curb—they were overlooked, Mr. Johnston.

JOHNSTON: Yes, I want you to include them in your contract, O'Brien.

O'BRIEN: As per your suggestion I changed the tank toilets to flushometers. I would suggest, too, Mr. Johnston, that you rough for future regulator in basement and place a control valve at that point, which will avoid the necessity of your using the valve in the street in case of emergency.

JOHNSTON: I was under the impression that I had that in my specification.

O'BRIEN: No, but I have included it. Then you should also have your hot water covered in order to cut down your gas bills.

JOHNSTON: Give me an alternate bid on that, O'Brien. I am not sure whether I want to go to that expense or not.

O'BRIEN: All right, we will make a separate item on that. I think, Mr. Johnston, since you are using colored tubs, that you should install Pyramid standing waste and overflow, colored, to match your tubs. I believe that would complete your job, Mr. Johnston, and it would be good policy for you to keep this list, and check the other plumbers on it, because whether we do the job or not I'm sure you will want these things in your building.

JOHNSTON: Well, about how much will all this cost?

O'BRIEN: Oh, somewhere in the neighborhood of $200, Mr. Johnston—more or less.

JOHNSTON: (Pulls out his watch.) It's getting late, Mr. O'Brien, and I'm expecting Mr. Hess. He's probably out there now.

O'BRIEN: I'd like, Mr. Johnston, to just have another few minutes, if you'll be good enough, as I think there are a few things I have to say that might prove mutually beneficial. First of all, of course, it's very evident that you lean considerably toward Mr. Hess in this matter.

JOHNSTON: Well, yes, I do, Mr. O'Brien. He's an old friend of mine—has done a lot of good work for me, and he's a fine, a mighty fine chap.

O'BRIEN: Well, that statement convinces me all the more that what I am going to say is right, and that is—I've had a lot of confidence in you, Mr. Johnston—right from the start—as to your being a very fair man to do business with—a man of character and principle. While I feel that you will give Mr. Hess a certain amount of preference, I know, as a good business man, you must have a limit set on just that amount—in other words, Mr. Johnston, just how much must I beat Mr. Hess' figure to get this business?

JOHNSTON: Well, O'Brien, it never has been customary for me to figure a man's friendship in dollars and cents, but in this case I must say I would give Hess a small preference.

O'BRIEN: All right then, Mr. Johnston, let's set the amount of that preference in dollars and cents, right now—and then I can honestly tell you whether or not it would be worth my time to try and get within that margin.

JOHNSTON: Well, O'Brien, let's call it $75.00.

O'BRIEN: That's O. K. with me, Mr. Johnston—I'll draw up my proposal.

JOHNSTON: (Bidding good morning to O'Brien and Hooper)—You be back in an hour, O'Brien, and have your bid ready.

O'BRIEN: Be sure and have Mr. Hess have his fixture list drawn up identical with mine, which will afford an accurate check.

(*Announcer*: Hooper and O'Brien return to Johnston's office in less than the time set.)

JOHNSTON: (Excitedly)—What?—You back so soon? O'Brien, I've given the contract to Mr. Hess.

O'BRIEN: You don't mean to tell me, Mr. Johnston, after our conversation and asking me to draw up my bid and come back in an hour—and after my taking such an interest and suggesting the numerous changes and your accepting them—that you really did that?

JOHNSTON: Well, I didn't sign it exactly—but I told him to draw up his contract and to come back and I'd sign it. Have you your revised bid? What's the figure?

(*Announcer*: There is a knock and Hess enters.)

O'BRIEN: Good afternoon. Well, Mr. Hess, this looks like a case of dog eat dog, but I believe Mr. Johnston thinks mighty well of you—so well in fact that he stated this morning that he would give you a $75 preference. Being a case of Hess vs. Haverty—all outside competition being eliminated—is that right, Mr. Johnston?

JOHNSTON: That's right.

O'BRIEN: Then, I suggest that we allow each other to check our fixture lists.

HESS: All right, here's mine. (Handing O'Brien his fixture list.)

O'BRIEN: And here's mine. (Handing Hess fixture list.)

(O'Brien and Hess proceed to read each other's list silently.)

JOHNSTON: (Interrupting.) O'Brien, while you're checking that let me have your contract so I can check against Mr. Hess'. (He is already holding Mr. Hess' contract in his hand.)

O'BRIEN: Wait just a moment, Mr. Johnston, this is the one with the price on it.

(O'Brien and Hess continue to read.)

HESS: O. K. (Handing back O'Brien's list.)

O'BRIEN: O. K. here, too. (Handing Hess his list back.) Well, Mr. Johnston, these lists check perfectly. So, bearing in mind our agreement of this morning—that is, $75 preference to Mr. Hess—I think the only fair

thing now is—and I know, Mr. Johnston, you are going to play fair in this—is to turn them up.

JOHNSTON: All right—(Reading Hess' contract triumphantly)—$6,350.

O'BRIEN: All right, Mr. Johnston, I'll take the job at $6,250.

JOHNSTON: (Excitedly.) Frank, I wanted you to have this job.

O'BRIEN: (With pen in hand, handing it to Johnson.) Well, I believe it's entirely up to you, Mr. Johnston, to do your part now—I've done mine—Mr. Hess has done his—and it's a fair piece of business and the cleanest competition that any competitor could expect. Everything has checked as Mr. Hess has told you—and I believe, Mr. Johnston, it's up to you to sign.

JOHNSTON: Well—just a minute now—you've been doing most of the talking this afternoon—you say this checks and that checks, but I want to look this thing over myself again.

JOHNSTON: (To Hess now.) Frank, I wish you'd come over here and check this again. (Handing contract.)

HESS: I'm very sorry, Scotty, but I have checked O'Brien's contract once before, and according to our agreement, which was absolutely fair to me, I am out of the transaction now.

O'BRIEN: Just one minute, Mr. Hess. If you will do me the favor, will you just once more tell Mr. Johnston that my contract has checked O. K.?

HESS: Yes, I will, O'Brien. Mr. Johnston, all I can say in the matter is that I'm satisfied—the fixture list is O. K. So long; I'll see you folks again.

(Johnston is signing.)

(Hess is leaving.)

JOHNSTON: (Looking up.) Where is Frank?

O'BRIEN: He just went out the door, Mr. Johnston.

JOHNSTON: Excuse me, O'Brien; I feel that I have hurt Frank's feelings. I must see him at once. (Leaves and goes after Hess.)

(O'Brien, looking at desk, leisurely picks up contract and puts it in his pocket.)

JOHNSTON: (Returning.) I feel a whole lot better now, O'Brien. I just talked with Frank, and really I wanted to see him get this contract, as we went through college together and I have known him a long, long time.

O'BRIEN: Mr. Johnston, your actions have demonstrated to Mr. Hess the sincerity of your friendship, and I only hope the time will come when your friendship will be as strong toward the Thomas Haverty Company.

JOHNSTON: I'm sure everything will be all right, O'Brien.

O'BRIEN: Mr. Johnston, there is just one thing more. In order to expedite this contract through our Credit Department it will be necessary for you to furnish me with the following credit information. Would you mind filling this form out for me?

JOHNSTON: Certainly. (Fills out form.) Is that all, O'Brien? (Hands information slip to O'Brien.)

O'BRIEN: (Taking pink slip—shakes Johnston's hand.) After this contract is completed, Mr. Johnston, you are going to be on our list as one of our many satisfied customers.

The End

Editorials

The Changing Times

AFTER about ten years of nearly undisputed possession of the field, the "tailor-made" cigarette is being jogged out of step by the growth of the "roll-your-own" movement. The figures show that, after all of the makers of cigarettes had piled up a big gain for the first half of the year in total sales, in the one month of July the falling off in sales was sufficient to wipe out the six-month gain and to introduce a deficit of over one million cigarettes as compared with the first seven months of last year.

Here is a striking instance of the changing times, and the change that has come over us as a people. Where, two or three years ago, to paraphrase a famous cigarette slogan, a few cents more didn't make a whale of a lot of difference, now small economies are the rule. We aren't spending as freely, nor as thoughtlessly.

It all depends upon a man's point of view, whether he finds this economical frame of mind a help or a hindrance in his selling. To some it seems impossible to get by the simple refusal to spend money now. To others, the investment point of view, the lower present prices, the savings which will come from the installation of automatic heat and other specialties, seem timely and appropriate sales arguments. Certainly, since a man must continue somehow to keep his business afloat, he should study this present tendency to economize and fit his selling to that frame of mind in his prospects.

"Now Is the Time"

"NOW is the time," says a bulletin issued by the American Institute of Architects, for the architects to get together in a national way if the profession "intends to maintain intellectual command in the building industry." We do not call attention to this statement for the purpose of commenting on that phrase about "intellectual command" in the building industry; although it would bear discussion.

Our only comment is one of approval of the spirit shown. "Now is the time" not only for the architects, but for every other group of men in the building industry to strengthen association lines, to formulate objectives that are fundamental, and to go after them without frills. While others are preparing to be in "intellectual command" of the building industry, plumbing and heating contractors should be looking to their interests.

Whose Job?

AS AMERICAN business goes, many adjustments which have nothing to do with legalities, must be made voluntarily by those engaged in business. Associations are formed to secure some of those adjustments. But, in the nature of things, our American philosophy of letting business work out its own salvation leaves unsolved a certain number of problems that act as a brake on volume.

For example, right now there should be going on in the plumbing and heating field an intensive study of the subject of discounts and retail mark-up. The situation as it exists is ridiculous. A man with an expensive store, carrying a representative display of materials, goes out to call upon a prospect. He figures a job—and into his figures must go a fair share of the overhead for his store and his merchandising activities.

The prospect then calls in a man who has, up to now, had nothing to do with helping the sale. He may never have shown a piece of merchandise in all his career. He figures the fixtures which the prospect has seen in the first man's store. Because he has no store—and he may be of the type to claim that he has no overhead—he can knock off twenty or twenty-five dollars. He gets the job. The fixtures will cost him what they cost the man with the showroom.

That fact is costing manufacturers volume—because the retailer who is smart enough to see the profit in merchandising, is smart enough to concentrate his merchandising efforts on lines of specialties where he has real sales help, and a fair margin to work on.

There isn't much use of doing a lot of educational work along merchandising lines until this problem is solved. Whose job is it? Will the manufacturers, realizing that the men who could sell in larger quantities are putting their selling efforts into refrigeration, oil burners, and other specialties, undertake to set a new policy? Or will the retailers have to get the necessary data and commence the long task of convincing a scattered group of manufacturers that a scientific adjustment of mark-up will increase volume in the staple fixtures.

RETAIL ADVERTISING SERVICE

THE social season is about to commence—more attention will be directed to the home and its appointment. Take advantage of this situation—use the copy in these two pages to call the attention of the hostess to the things that will make entertaining more convenient.

Winter Plumbing Conveniences

THE social season—the season of entertaining—is on us again. Are you efficiently prepared to meet its demands on you as hostess? Here are some of the things we recommend to make the task of entertaining guests easier:

Double Drain Board Sink
with strainer—doing away with the need for the dishpan. More sanitary.

Swing Spout Faucet
mixes hot and cold water and delivers it from one spout at right temperature.

Extra Bathroom
for your convenience, and for the comfort of the overnight guest.

Automatic Water Heater
all the hot water you need, instantly, for every household purpose.

Lavatory or Toilet
conveniently placed in basement for use of children during play hours.

All these will add to the comfort, convenience, and value of your home. Telephone us, and we'll plan for your needs.

(In this space Your Name, Etc.)

For one column space

The copy on these two pages is for the use of readers of DOMESTIC ENGINEERING —without charge. If you wish to use the illustrations, they are sold at $4.20 for twelve —three months' service.

You Can't Entertain Graciously Without Adequate Plumbing

Just as, back of the smoothly rendered service of the hotel, you know that back of the graciously extended hospitality of the home there is thoughtful attention to the necessary equipment. No home maker can entertain with ease and grace if she must look to antiquated equipment—to plumbing that is out-of-date—to insufficient hot water for all purposes. Come in and see our display—or telephone and we'll help you plan to meet your needs in a modern way.

(In this space Your Name, Etc.)

A two-column newspaper ad

Dear Madam:

With the coming of Fall, you will begin to entertain more.

You know what that means--if you haven't adequate equipment. It means extra work. If you have insufficient hot water, if your kitchen sink is of the old type, inconvenient; if you haven't the proper bathroom facilities--all these make your task of entertaining difficult. And, usually, it adds to the cost of running the home.

The modern plumbing features are designed with an eye to beauty and efficiency. A new kitchen sink is not only good to look at--it's easier to work at. Of the right height, easily kept clean, and with the self-strainer which does away with the old dishpan, it becomes a household tool that is a downright pleasure to use.

We'd be very glad to have you drop in to see our display. Or, if you wish, just telephone.A member of the firm will will call on you to help you plan to meet your needs adequately, and economically. A convenient payment plan will put needed fixtures in your home now, with no financial strain.

We shall be very glad to serve you. Why not phone us now?

Very truly yours,
HARRY BROWN

A plumbing sales letter

HOUSEWIVES ARE NOW HOME MAKERS

"It's a fact that housewives are now home makers," says Harry Brown, local plumbing contractor. "And, even if it is thought I'm claiming too much for my own business, I think it's largely because of modern plumbing that this is so.

"Just think what convenience and efficiency there is in a modern kitchen sink. Its height is right—adjusted to the height of the woman who is to use it. It may be in colors; its lines are beautiful; it is easily kept clean and will not stain. Other things—like the automatic water heater that delivers all the hot water that is needed anywhere in the house—all these give the lady of the house time to be a home maker and not merely a housekeeper.

"I've just mentioned two of the things that speed up housework. But there are many others."

Hand this publicity item to your newspaper

Tying Up Heat and Hospitality

The coming on of the social season brings heating needs to the front, also. Automatic heat makes entertaining easier and more gracious—that's the message the heating contractor should be carrying to his community in his advertising.

A two-column newspaper ad

Who Tends the Heating Plant When There's Company

WHO, indeed? And who entertains the guests while the heating plant is being tended? In the modern home, with a heating plant that is automatic, this problem does not arise. The heating plant takes care of itself, obedient to the need for more or less warmth. This is true, whatever the fuel burned,—the home owner enjoys immunity from heating plant drudgery. We'll be glad to discuss the matter of automatic heat for your home this winter without obligation on your part. Just phone for an appointment.

(In this space Your Name, etc.)

Heat for Hospitality

LEAVE yourself free to entertain your guests without annoying interruptions. The old-fashioned heating plant makes the house too warm, or too cold—the modern heating plant keeps it at an even temperature; and does it automatically. It feeds the fuel—no matter what it is—automatically. We shall be glad to go over your heating plant and tell you whether or not it can be made fully or partly automatic. Just telephone for an appointment.

(In this space Your Name, Etc.)

A single column ad

DESERTING GUESTS FOR HIS BASEMENT

"Do you realize that you might head a lot of stories about house parties," asks Harry Brown, local heating contractor, "with those words? I know what people would think the head meant—but I mean that many a man has to desert his guests during the winter months to go down and play nurse to his heating plant.

"That's wrong from two points of view. It spoils the party—and it shows that the heating plant is out-of-date. The modern heating plant takes care of itself—no matter what fuel is burned—and leaves the home owner free to enjoy his evenings. Some plants even take care of themselves all during the winter months without need for attention. That's what I mean when I talk about automatic heat—that makes for perfect hospitality."

Give this publicity item to your local newspapers

Your Window

Window displays need change. If you have a permanent display of fixtures and equipment, make changes in lighting—use the free floor space for changed displays of accessories. Property owners who pass your window will never be particularly drawn to it if it remains the same in every detail for months at a time. Change—even small changes—is what draws attention to a window.

Dear Sir:

Think back over last winter.

Do you remember having to go down into the basement while you were entertaining friends, in order to poke up the heating plant, or to check it because the house was getting too warm?

Do you remember evenings when it seemed that you couldn't settle down to the enjoyment of your newspaper or your book, because it was necessary to make frequent trips into the basement to take care of the heating plant?

Now look ahead to the coming winter months--I'm sure you don't want to endure those discomforts. Particularly when they can be overcome at a moderate cost, and with the result that your heating plant will operate more efficiently and at less cost to you for fuel.

Modern heating trends are in the direction of automatic heat--controlled temperature, no matter what fuel you are burning.

I should be very glad for an opportunity to discuss the matter with you and to inspect your plant to see just what might be done to relieve you of the drudgery next winter.

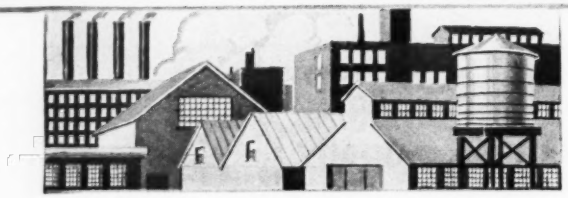
Will you telephone, and make an appointment for me to see you?

Very truly yours,
HARRY BROWN

A heating sales letter

SUPPLY NEWS

AMONG MANUFACTURERS, WHOLESALERS AND SALESMEN



Central Supply Association to Meet October 28-29

The Central Supply Association has selected October 28 and 29 as the dates for its thirty-seventh annual meeting, which will be held at the Palmer House, Chicago. The association officers are still engaged in preparing the program, details of which will be announced in these columns later.

◆

Ludlow Valve Mfg. Co. to Manufacture in Canada

The Ludlow Valve Mfg. Co., of Troy, N. Y., will manufacture in Canada as The Canadian Ludlow Valve Mfg. Co., Ltd. Offices are located at 930 Wellington street, Montreal, Que., and factories at Three Rivers, Que., St. Thomas, Ont., and Fort William, Ont.

◆

Westcoast Sanitary Manufacturers, Inc., Is Organized

Westcoast Sanitary Manufacturers, Inc., has been organized on the Pacific Coast with main offices in Los Angeles, Calif., to manufacture a line of vitreous china, enameled iron and plumbing brass fixtures and fittings. The new organization is a result of the merger of the West Coast Porcelain Manufacturers, of Millbrae, Calif., the Sunset Sanitary Mfg. Co., of Los Angeles and the Repcal Brass Mfg. Co., also of Los Angeles.

The company has sales offices in San Diego, Bakersfield and San Francisco, Calif.; Klamath Falls and Portland, Ore., and Seattle and Spokane, Wash.

The officers of the company are Moritz Thomsen, chairman of the board of directors; Adolph Ramish, president; Charles S. Thomsen, first vice president; R. C. Troeger, executive vice president and secretary; J. Carter Hermann, vice president in charge of sales; W. R. Coates, treasurer; and C. H. Hermann and W. A. Shaw, directors.

Concerning the firm's method of distribution, J. Carter Hermann said: "We are confining distribution of our products to the plumbing trade only, in conformity with the procedure favored by the Plumbing Supply Association and various master plumbers' associations—namely, from manufacturer, to jobber to plumber to retailer. In our belief this type of distribution if properly applied, combined with aggressive merchandising efforts will in the long run be the salvation of the plumbing business."

◆

Plumbing Fixture Co. Is Organized

Plumbing Fixture Company is the name of a wholesale plumbing firm recently organized in East Cleveland, Ohio, by Edward W. Philpott and Paul H. Hackbarth, at 12414 Euclid avenue. Mr. Philpott has been associated with the plumbing and heating industry for many years. In 1910 he established the Occidental Co., which in 1929 was taken over by Eljer Co. and its name changed to Eljer Ohio Co.

◆

Johns-Manville Corp. Names Five New Vice Presidents

At a recent meeting of the board of directors of the Johns-Manville Sales Corporation T. K. Mial, R. C. Harden, G. R. Lewis, J. M. Taylor and Franklin Shuey were elected vice presidents, to have executive supervision of various territorial districts.

The districts for which these executives will be responsible are as follows: Mr. Mial, Metropolitan, Boston, Philadelphia and New York State; Mr. Harden, Chicago, St. Louis, Northwestern and Denver; Mr. Lewis, Cleveland, Detroit, Pittsburgh and Cincinnati; Mr. Taylor, New Orleans, Atlanta and Houston; Franklin Shuey, San Francisco, Los Angeles and Seattle.

The managers of the districts are as follows: Metropolitan, E. W. Heurung; Philadelphia, J. O. Boylan; Boston, G. W. Esler, Jr.; New York State, G. R. Frankland; Cleveland, E. Dowling; Detroit, E. F. Boyle; Cincinnati, H. L. Steiner; Pittsburgh, E. W. Rosenberger; Northwestern, W. G. Wendland; Chicago, W. H. Fogarty; St. Louis, T. C. Greenwood; Denver, L. H. Inglee; Atlanta, J. H. Olden; Houston, T. E. Gossett; New Orleans, C. J. Flanagan; San Francisco, E. H. Clausen; Los Angeles, H. B. Heyn; Seattle, F. W. McDermott.

International Convention of Silent Glow Oil Burner Corp. Is Big Success

The international convention of the Silent Glow Oil Burner Corp., Ltd., held in Montreal, Canada, August 3 and 4, was the most successful meeting of this kind ever held by the organization. The Mount Royal hotel served as headquarters and the convention occupied the entire ninth floor of the building. The corporation's entire line of products was displayed, and, in addition, sixteen display booths were maintained by manufacturers whose products are used in connection with the firm's line of oil burners.

The convention was formally opened by L. D. L'Esperance, secretary of the corporation. H. G. Elrod, vice president, presided as chairman. President R. M. Sherman responded to the address of welcome delivered by Camillien Houde, mayor of Montreal. Mr. Elrod outlined the purpose of the convention.

Two short playlets were a prominent part of the morning program. One depicted a Silent Glow salesman calling on a woman prospect at her home; the other portrayed the closing sale at the showroom. These sketches were put on by Miss Dorothy Alexander, J. A. Gratton and J. M. Paquette.

The feature address was delivered by President Sherman, who described in detail the manufacture of the firm's products. He told of the engineering research conducted by the organization and of its sales methods. Mr. Sherman also described the technical features of the latest additions to their line. The morning session closed with an address by C. B. Cook, vice president.

At the evening session, H. E. Stephenson, of A. McKim, Ltd., spoke on "Co-operative Dealer Advertising. He was followed by H. P. Riordan, assistant secretary of the corporation, whose subject was "Doing Business in Canada." Mr. Riordan told his hearers what the corporation was doing to develop the Canadian market.

Other speakers were: J. E. Beaudin; Vice President Elrod; R. Gauthier, commissioner of the local fire department; and J. McIsaacs, chief of the local fire prevention department. Representatives of accessory manufacturers present also spoke on technical matters.

The annual banquet was attended by a large number. A theatrical troupe added to the enjoyment of the evening. The second day of the convention was set aside for the public to inspect the exhibits.

◆

Moves to New Quarters

L. J. Tierney Company, which represents the Heggie Simplex Boiler Co. and James P. Marsh & Co. in New England territory, has removed its offices from 260 Tremont street, Boston, to 1425 Statler building, Boston.

◆

Worthington Pump and Machinery Corp. Announces Appointments to its Staff

During the past few weeks several important additions have been made to the staff of the Worthington Pump and Machinery Corp., New York, N. Y. At the same time, certain organization changes also were announced.

Otto Nonnenbruch, for the past four years chief engineer of the Diesel department of I. P. Morris and De La Vergne, Inc., Philadelphia, Pa., and prior to that with Worthington in various capacities for nine years, rejoined the latter organization as of July 1. Mr. Nonnenbruch will make his headquarters at Buffalo, N. Y., as special sales representative.

J. B. Allen, formerly president of the Allen Engineering Co., Bridgeport, Conn., and prior to that time with the Sperry Gyroscope Co., Brooklyn, N. Y., has been appointed special marine representative with headquarters at Harrison, N. J.

H. G. Wood, formerly assistant manager of the New England division of the Westinghouse Engineering & Mfg. Co., has joined the Worthington organization in the capacity of electrical sales engineer. E. M. Paullin, Jr., has been appointed electrical sales engineer at the

Picture taken at the banquet given in connection with the international convention of Silent Glow Oil Burner Corp., Ltd., which was held recently at Montreal, Canada, with a large attendance of the corporation's representatives

Cincinnati, Ohio, works of the Worthington corporation. Mr. Paullin was associated with the New York office of the General Electric Co. as synchronous motor specialist.

John T. Clancy, assistant manager, Buffalo Works sales division, has transferred his headquarters from Buffalo to Harrison, N. J. E. W. Hammond, formerly located at Buffalo, has been transferred to Los Angeles as special representative of Diesel and gas engine sales on the Pacific Coast. A. M. Boehm goes to Kansas City as Diesel and gas engine specialist. He formerly was in the sales department at Buffalo Works.

Joseph F. Hecking, formerly with the Diesel engine sales division in New York, has been assigned to the Diesel and gas engine sales division at Buffalo. William J. Daly, assistant manager, Cincinnati Works sales division, has been assigned to Pittsburgh, Pa., on special sales work. G. A. Herrmann, formerly sales engineer at Chicago, has been appointed acting district manager at St. Paul. W. R. Kennedy, sales engineer at Pittsburgh, has been appointed acting district manager at Kansas City.

◆

E. L. Flentje Starts Sales Development and Distribution Service

Ernst L. Flentje has opened offices at 35 E. Wacker Drive, Chicago, and announces his inauguration of a sales development and distribution service to manufacturers of plumbing and heating materials. Mr. Flentje expects to augment the efforts of the sales promotion and advertising staffs of manufacturers and to work with other manufacturers who do not have such staffs.

He was formerly secretary-manager of the Plumbing and Heating Industries Bureau, having previously directed sales promotion work of the Bureau for several years. Later he became commissioner of the National Plumbing and Heating Institute organized as a result of the trade practice movement. That work was given up when the Institute was liquidated on July 1. In these two capacities Mr. Flentje has traveled throughout the country and built up a large acquaintanceship among those in the plumbing and heating industry.

Predicts $65,000,000 Refrigerator Sales to End of Year

During the first week in September, forty-four dealer sales meetings were held by Frigidaire in all parts of the country. The main interest in these meetings from the dealers' point of view was the announcement of lower prices in all lines, both domestic and commercial.

Speakers at these meetings predicted for the last quarter of 1931 a sales volume in electric refrigeration of $65,000,000. The keynote of the meeting was winter sales, with two motion pictures demonstrating the fact that sales of electric refrigeration can be made in winter as well as during the warm months of the year.

◆

A. S. H. V. E. to Award Anderson Medal for Outstanding Service

The committee on award of the F. Paul Anderson Medal has extended an invitation to all members of the American Society of Heating and Ventilating Engineers, to submit the names of candidates for the first award of the medal, to be made at the 38th annual meeting of the Society, January 1932, in Cleveland, Ohio.

The conditions are briefly as follows: 1—Any member of the Society in good standing during 1931 is eligible for nomination. 2—Each nomination, sent to the committee on award, must be accompanied by a statement of the candidate's accomplishments specifically mentioning the work done or services performed and indicating in what way such work or services have been outstanding in the field of heating, ventilating or air conditioning, during any year or years prior to 1931. 3—All nominations must be in the hands of the Committee on November 30, 1931.

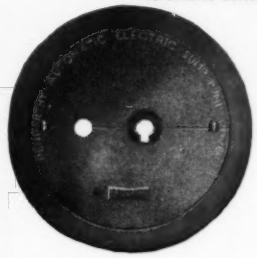
Frederick Paul Anderson, for whom the medal is named, is a Past President of the Society and a former Director of its Research Laboratory and for 40 years has followed his chosen task of training the youth of Kentucky and at present is Dean of the College of Engineering, University of Kentucky, Lexington, Ky.

The use of airplanes for delivery service, it seems, is constantly increasing in popularity. The above picture was taken at Fort Wayne, Ind., when the local dealer for The Master Electric Co., of Dayton, Ohio, received his first shipment of the company's new type electric heater. This four place monoplane, the "Master Messenger," is owned by The Master Electric Co.

PENBERTHY Automatic Electric Sump PUMPS are now available in five sizes

"Penberthy" Ring and Split Sump Covers

For Automatic Electric Sump Pumps and Automatic Cellar Drainers



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1	$8.50	19¾
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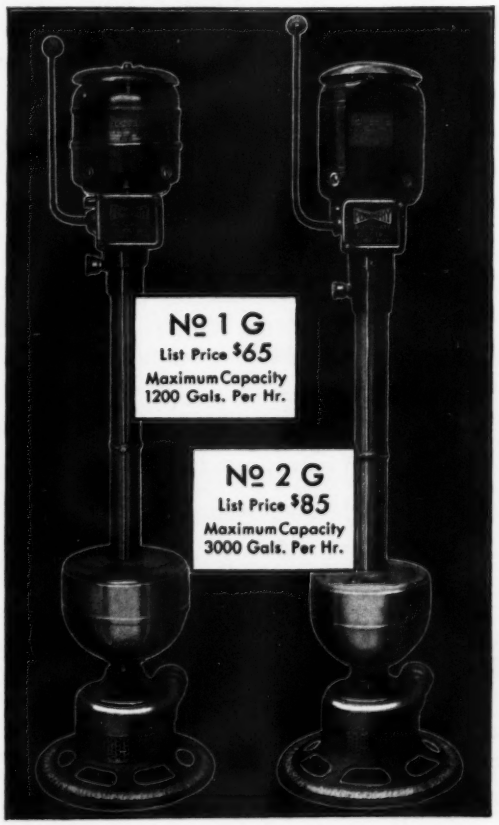
All sizes are equipped with repulsion induction motors of exceptionally rugged construction



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List Price $100
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DETROIT

CANADIAN PLANT WINDSOR, ONT.

Business Personals

L. B. DeLong, president of Pierce, Butler and Pierce Mfg. Corp., New York City, has retired from active business. He has been associated with the plumbing and heating industry for many years, where he has a large acquaintanceship. I. N. Beeler, chairman of the board of directors, has assumed the duties of president until such time as the board elects his successor.

William Redieske has joined the sales organization of the Eagle-Picher Lead Co. for work in Chicago and Cook County as sales representative of the metal division. His work calls for selling the lead and lead products of the company. Mr. Redieske is one of the best known men in the plumbing and heating industry of the middle west. This results from his years of association with the contracting, wholesaling and manufacturing groups. Many years ago he was president of the Chicago Master Plumbers Association, later serving at different times as secretary of the Illinois, Iowa and Minnesota associations. In the past few years he had been carrying on promotional sales work for the Imperial Brass Mfg. Co., Chicago.

William Redieske

Stuart M. Murdock has joined the Fix-Lippman Co., plumbing and heating wholesale firm of Chicago, in a sales capacity. He will make his headquarters at 19453 South Ashland avenue. Mr. Murdock has been associated with the wholesale plumbing and heating business in Chicago for many years. Prior to assuming his new position he was vice president of the National Plumbing and Heating Supply Co. Before that he was a salesman for James B. Clow & Sons.

M. L. Jacob

M. L. Jacob has been named southern district sales manager for Cohoes Rolling Mill Co., Cohoes, N. Y., with headquarters in the Rhodes-Haverty building, Atlanta, Ga. Mr. Jacob has been associated with this company for several years in the capacity of consulting industrial engineer. He is a member of the Society of Industrial Engineers and an associate member of the American Society of Mechanical Engineers. He is a graduate engineer, having received his degree at Pennsylvania State College.

F. W. McDonald has been named division manager in charge of the New York office of A. M. Byers Co., of Pittsburgh, Pa. G. W. Hamill is assistant division manager.

B. T. Ehrnman, who was formerly located in the Chicago office of the International-Stacey Corp., of Columbus, Ohio, has been transferred to St. Louis, Mo., as division manager, with offices at Room 2192 Railway Exchange building. Mr. Ehrnman has been associated for a number of years with the Roots-Connersville-Wilbraham division of this company in the sale of gas pumps, meters, blowers and other equipment.

H. Arthur Ebbert has been appointed New York representative of S. S. Fretz, Jr., & Co. and the Thos. Devlin Mfg. Co., both of Philadelphia. Mr. Ebbert formerly represented these two firms in the Pittsburgh territory. He is also representing the Pennsylvania Range Boiler Co., of Philadelphia.

Charles H. Schmitz, whose likeness appears herewith, has been appointed a sales representative of the Woodrow National Corp., 816 North Spaulding avenue, Chicago, as announced in the previous issue of Domestic Engineering. For the past five years Mr. Schmitz has been associated with the Chicago Nipple Manufacturing Co. He will sell the products of the Woodrow National Corp. in the middle western territory. He assumed his new position on September 1.

Charles H. Schmitz

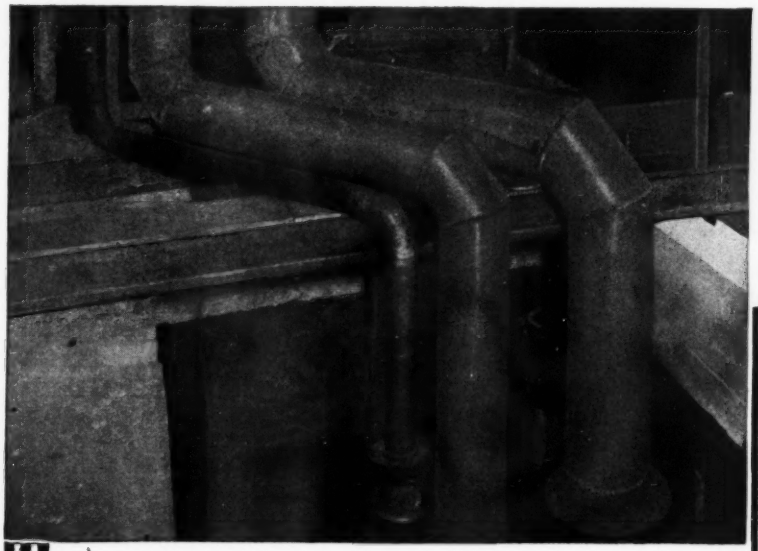
J. P. Smith has been appointed manager of the Cleveland, Ohio, branch of the International Heater Co., of Utica, N. Y. He was formerly sales engineer for the company in the Calumet district, with headquarters in the Chicago office.

P. J. McCoy is now connected with the heating department of the Universal Valve & Fitting Co., of Cleveland, Ohio. He was formerly associated with the American Radiator Co., of New York City, in the West Virginia, Pittsburgh and Cleveland territories.

◆

Many Join Oil Burner Dealer Division of A. O. B. A.

Reports from the American Oil Burner Association indicate that oil burner dealers representing most every manufacturer of oil burning equipment in the country have enrolled for membership in the new Dealer Division of the association. According to the latest reports, the new division already has a membership of approximately 2,000.



Oxwelding
REDUCES COSTS

Oxwelding has revolutionized pipe installation practice. It is a new and better method in the hands of the pipe fitter. Oxwelded joints develop the full strength of the pipe itself and consequently lighter-walled pipe can be used for the entire system of piping. Oxwelded joints, once tested and found tight, always remain so, thus eliminating maintenance costs. Costly cast or forged fittings and special bends are also eliminated, except where flanged or screwed couplings are required to connect to valves. The most complicated fittings are neatly and compactly fabricated by oxwelding from standard sizes of pipe.

Welded piping construction may be undertaken with the same confidence in a satisfactory result as older methods and with further assurance of increased economy and serviceability.

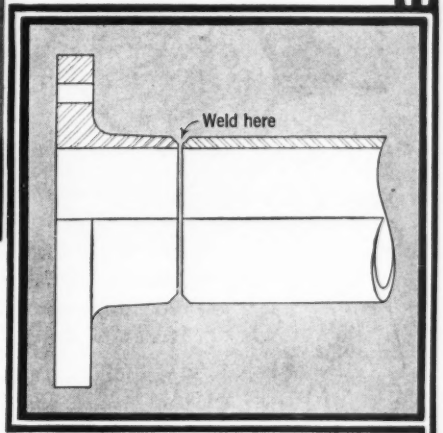
DESIGN STANDARDS FOR OXWELDED PIPING

Any welded piping system, even in its most complicated form, is a combination of a few fundamental welding design details.

PIPE FLANGES
Standard Flange for Welding

Explanation:

A type of flange especially designed for welded piping construction is illustrated. It is supplied by leading manufacturers of pipe fittings in both forged and cast steel. Either flat or tongue and groove



faces can be obtained to meet service requirements. It is provided with an extra long hub for butt welding into the line.

Uses:

The Standard Flange for Welding is recommended to replace by welded construction other types of American Standard flanges for all sizes, pressures and services.

Specification:

When the Standard Flange for Welding is specified the following features should be included in the specification:

1. The flange shall be carefully tacked before welding, with tack welds not more than 6 in. apart, to facilitate and maintain alignment.
2. Bolt holes shall straddle natural center lines except when specified otherwise.
3. Other features to be included in the specification are the same as for the Open Single Vee Butt Weld given on page 10, "Design Standards for Oxwelded Piping," except that in all cases the weld shall be built up to a height in excess of the thickness of the welding end of the flange hub.

The above is excerpted from a handbook on fundamental designs, titled, "Design Standards for Oxwelded Steel and Wrought Iron Piping," published by The Linde Air Products Company.

You should have a copy of this handbook. It is yours for the asking.

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Unit of Union Carbide and Carbon Corporation

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"X" "X" "X" "X" "X" "X"

Wholesaler Profits from Better Truck Management

A nation-wide survey of truck operation as related to wholesale profits

A RECENT survey covering the use of trucks by wholesalers * develops some interesting information and suggestion of possible value to plumbing and heating wholesalers. The survey is divided as follows: I—The important trends in wholesaling; II—Improving management of truck operation; III—Making each order more profitable; IV—Getting effective control of trucks; V—Buying trucks that increase profits.

Under the first head, the survey notes the following factors as affecting the wholesaler's profits. First, direct selling to consumers by the manufacturer; second, direct distribution by the manufacturer from stocks in strategically located public warehouses; third, direct buying from manufacturers by co-operative retail organizations; and, fourth, an increased tendency toward hand-to-mouth buying. "Each of these important changes in distribution," says the report, "must be met by the wholesaler if he is to receive a satisfactory return from his business in the future. It is the purpose of this report to point out some relatively simple, but effective, means of insuring those returns."

Truck Management for Economy

Executives interviewed, in speaking of the wholesaler's job, agreed that "the successful wholesaler of the future must concentrate effort on the central function of every wholesale operation—quick, efficient and economical movement of goods." The main elements of this task are assembling, storing, selling, breaking up quantity lots, extending credit and delivering the merchandise. In view of the changes going on in distribution, the report says: "The wholesaler's present reason for existence and his greatest opportunity for future development are based upon his ability to move goods effectively and economically from manufacturer to retailer." In building up this ability, the facts developed by the survey "indicate clearly that effort spent in planning better truck operation will yield more profitable returns for the average wholesaler than an equal amount of effort directed toward almost any other phase of his business." The survey shows truck expense to be an important item, running from 6 to 15 per cent. The report stresses these two facts: In no case was the wholesaler's profit greater or even equal to the cost of truck operation; and that, in almost every wholesale operation observed, careful analysis showed that one of the most promising opportunities for increasing profits and lowering expense was in eliminating losses in truck operation.

Better truck management, the report asserts, means greater profits. "In many wholesale establishments truck operation has simply grown up as part of the business without much thought being given to sound management. Trucks have simply been bought and placed in operation as they were needed. Truck operation developed on that basis, however, is seldom profitable. The wholesaler who has a large investment in trucks and whose annual truck expense runs into thousands of dollars must realize that he is—in one sense—in the transportation business." In order to improve management of trucks, the following points are offered: 1.—Better management of truck time. 2.—Better planning of sales and deliveries. 3.—More effective control of trucks and drivers. 4.—Better planning of truck buying.

The first step is the elimination of lost time. The annual fixed costs on a typical two-ton wholesaler's truck is $2,389, making $7.96 the daily fixed costs (300 working days) and with an hourly cost of $.94 on the basis of an eight and one-half hour day. In order to do away with lost time it is suggested that there be no unnecessary loss of time at the loading platform, or at the point of delivery, and that the trucks do not spend an excessive amount of time in the repair shop.

One wholesaler estimated his savings over a year at $2,855, due to the systematic assembly of orders in the warehouse and the elimination of lost time where trucks had to wait when the orders, under the old system, were all prepared for delivery in the morning. A time study of the loading operation for six wholesale trucks showed 390 minutes lost in one day. Suggestions are made for correcting the loss of time at the loading platform.

Similarly, six causes of loss of time at point of delivery are given, and the steps taken by one wholesaler to eliminate this lost time. A form is shown which, filled out in the office and handed to the truck driver, makes it quite clear just where he is to go, what he is to pick up, and whom he must see.

The process of avoiding excessive time spent in the repair shop boils down, of course, to the hiring and training of drivers and the systematic maintenance of the trucks to prevent breakdowns. Three factors are set forth in order to get satisfactory results from drivers: 1.—Hiring the right driver at the start. 2.—Seeing to it that the driver knows his job thoroughly. 3.—Offering incentives for doing the job right. "A good driver," says the report, "builds good will, lowers truck costs, reduces errors, and adds life to truck equipment. Effort spent on improving driver performance pays dividends."

* "Insuring Wholesalers' Profits with Trucks." General Motors Truck Co.

Under the third main head of the report, "Making Each Order More Profitable," it is admitted that the "average wholesaler is far more interested in building his business and increasing his profits by sound expansion than he is in simply curtailing expense. Rather than refuse to serve unprofitable accounts, he would like to build them into profitable accounts. Rather than limit his trading area, he would like to extend it profitably. Rather than drop a great many items from his stock for which there is occasional demand, he would like to add new, profitable items and increase his margin on all his present items." The report then asserts that it is through the medium of his transportation that he has perhaps the greatest possibility for increasing his profits on each order he delivers and on each item he carries. If he operates his trucks economically, he can: 1.—Plan deliveries to increase profit on each order. 2.—Plan sales and deliveries to convert unprofitable accounts into profitable ones. 3.—Make his savings in truck operation the basis for serving a larger area. 4.—Use his trucks to increase his margin on both old and new items in his line.

Planning Profitable Loads

These four steps can be accomplished by planning more profitable loads. This means a flexible method of dispatching trucks and the building up of full loads. One case is cited of a distributor who, if he delivers a capacity load over a twelve-mile route, it costs him 32c per unit delivered. If he delivers only a two-thirds load, the cost increases to 48c, and if he delivers only a one-third load, the cost becomes 96c. Zoning for trucks should be studied constantly and "should be subject to change just as often as the limits of any given zone do not provide a full load for the truck assigned to it."

The second of these steps is planning sales to build profitable accounts. A table shows that, where the margin for delivery and profit is only two cents on the dollar, and delivery cost twenty-five cents a mile, the wholesaler can break even only on a delivery of $12.50 for one mile, ranging up to $125 for ten miles. This leads to a consideration of the cost of serving the out-of-the-way customer who is demanding extra service. The wholesaler can either drop that account or try to build it into a profitable one. The ability to determine such delivery costs will, naturally, make the sales problem a clearer one, and the report recommends building new, profitable accounts along present routes.

The next two steps deal with enlarging the profitable delivery area and increasing profits on individual items, as well as with the possibility of jobbing special items from the trucks. All of this leads to the need for getting effective control of trucks, and the report outlines the various cost figures which the wholesaler must have at his command in order that he may accomplish a saving in his truck operating costs. A form of report is given which will permit the wholesaler to check the breakdown of his truck costs and thus decide whether or not they are sufficient to enable him to establish accurate control.

The last section of the report covers "Buying trucks that increase profits," and outlines the various factors which should enter into the consideration of the type of truck equipment to be purchased. "Only the truck which can produce a maximum of work at minimum cost, because it is exactly suited to the job, is the most profitable truck to own and operate."

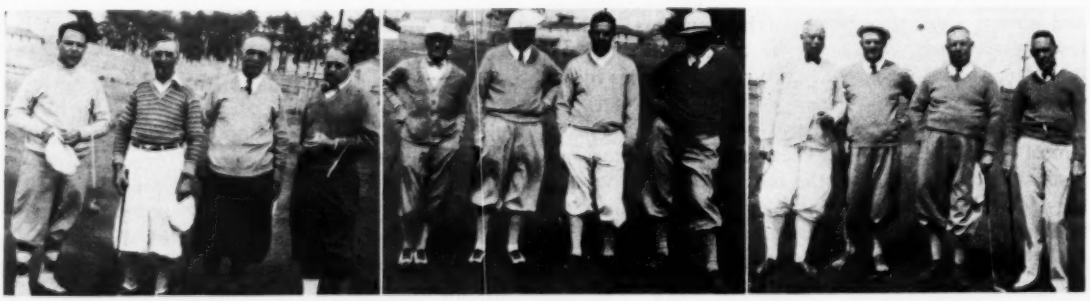
It would seem that the report of this nation-wide survey of wholesaler truck operation would be of value to the plumbing and heating distributor because of the information and suggestions contained in it.

Trade Golf Events

San Francisco Trade Group Plays Lake Merced Course

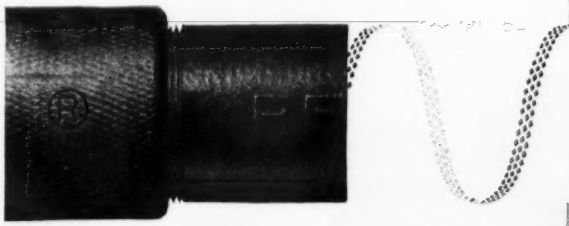
After the midsummer vacation period, observed by omitting the July golf tournament, the Plumbing and Heating Club of San Francisco and the Bay Cities put on an afternoon of golf followed by a banquet and meeting at the Lake Merced Golf and Country Club, just outside the San Francisco city limits, on August 27th. These meetings, all of which are well attended, are going far toward promoting a real spirit of understanding and good-fellowship between all branches of the industry.

The Lake Merced course is one of the finest in California, being fairly well trapped and noted for its fast greens. The tournament day was partly overcast, with a cold breeze blowing in from the Pacific; the temperature probably had something to do with the majority of the players making the 18



Left: J. F. Hell, W. J. Turner, D. Turner and R. A. Hudson. Center: J. V. Young, Thomas J. Leary, Stuart Greenberg and Herman Lawson. Right: W. A. Taylor, Donald O'Hair, Morris Greenberg and F. F. Elliott

"I Can Do a Workmanlike Job with That Indented Spiral Pipe!"



WHEN you are talking with a customer about pipe, *suggest Reading genuine Puddled Iron Pipe* —the pipe that gives you an opportunity to do a job you can be *proud* of!

Clean, true threads that make permanently leak-proof joints—*sturdiness* of construction such as is never obtained with thin-walled, "snaked-in" pipe—assurance of proper pitching—these are just a few of the reasons Reading Pipe is being recommended for the most *modern* installations.

And when you install Reading Pipe, you know that your customers will not complain about red rust, and that they are safe forever from the destructive greenish-white corrosion that attacks some kinds of pipe.

When you want Reading genuine Puddled Iron Pipe, be sure to look for the indented Reading Spiral —this mark is your best protection from substitutes.

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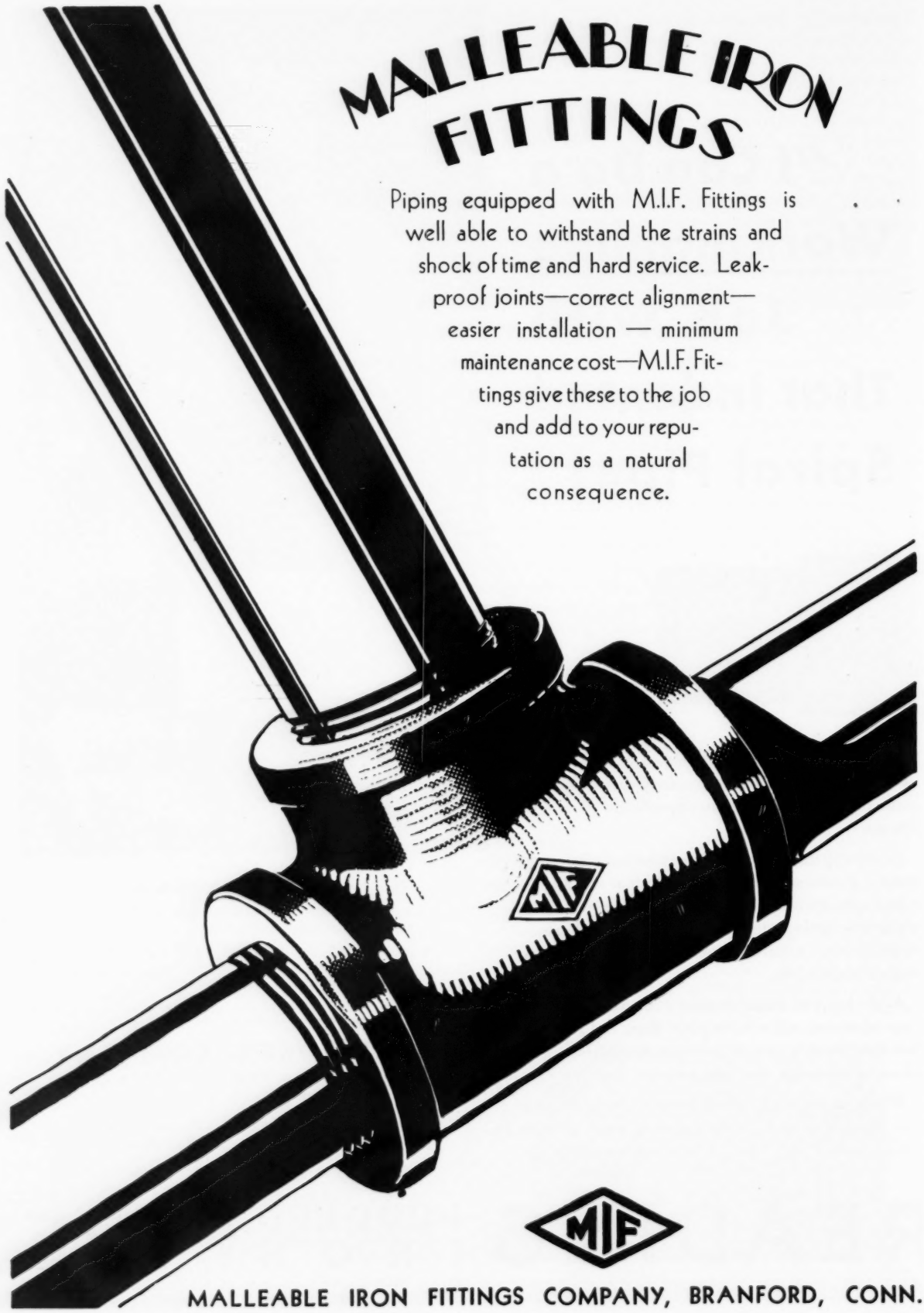
MALLEABLE IRON FITTINGS

Piping equipped with M.I.F. Fittings is well able to withstand the strains and shock of time and hard service. Leak-proof joints—correct alignment—easier installation — minimum maintenance cost—M.I.F. Fittings give these to the job and add to your reputation as a natural consequence.



MIF

MALLEABLE IRON FITTINGS COMPANY, BRANFORD, CONN.

Top row: F. M. Gabbert, W. H. Rainwater, J. W. Forsythe and C. F. Ceaser. Bottom row: A. Carrigan, Jr., J. V. Greer, H. K. Browning and T. Mixter

holes in two hours and a half, flat. The Greenberg brothers, Stuart and Morris, as member-hosts, were largely responsible for the success of the occasion. Tournament winners in their respective classes were:

Class A, W. J. Turner, 84-17-67; Class B, H. K. Browning, 99-24-75; Class C, F. Chittenden, 110-35-75.

Due to the comparatively few players in Class D, this group has been absorbed in the A, B and C divisions with the handicap range, in the aggregate, remaining the same. The three-way tie between Finch, Gabbert and Forsythe in Class B which developed at the June tournament when each of these gentlemen shot a net 71 was still undecided, due to the absence of Howard W. Finch.

The banquet meeting being the first gathering since the new officers were elected for the current fiscal year, President Heymans occupied the chair for the first time. In a brief address, Mr. Heymans paid gracious compliment to retiring president J. V. Young, and expressed the hope that the Plumbing and Heating Club would continue to prosper under the new regime as it had in the past.

Speaking in his capacity as president of the California State Merchant Plumbers Association, Mr. Young dwelt briefly on the functions and activities of that body, developing the idea that inasmuch as the master plumber constitutes the natural outlet for this industry's goods, the club should make a greater effort to interest the retailers, with the idea of bringing out more and more at the meetings. "This is bound to result in a much higher degree of co-operation," he said. Mr. Young urged that every member lend his heartiest support to the new officers, concluding with the expressed hope that everyone present will attend the second general meeting, banquet and dance of the Northern California Federation of Plumbing and Heating Industries, set for Saturday, September 26th, at the Hotel Sainte Claire, San Jose.

John M. LaDieu, executive secretary of the California state association, spoke forcefully on the subject of aggressive, business-like methods in which enthusiasm will go far toward bridging the gap of depression.

Are you still packing valves?

Are you still making costly return trips to repack leaking radiator valves? That kind of valve has outlived its usefulness on modern radiator jobs. And progressive architects, engineers and heating contractors are standardizing on Packless Valves that cannot leak.

ARCO PACKLESS VALVES

For Hot Water Installations the No. 901 shown above costs only about $5 extra for a typical 10 radiator job and it brings these outstanding advantages:

1. Packless—complete protection against leaks without repacking.
2. Swinging plate—acts as a cleaning tool, impossible for the valve to stick.
3. Equalizing—adjustable stop, makes it possible to balance the job after installation without expensive pipe changes.

STANDARDIZE ON No. 901 ARCO PACKLESS—One of a complete Packless line for Steam, Water, Vapor or Vacuum, made in Angle, Corner and Gate patterns.

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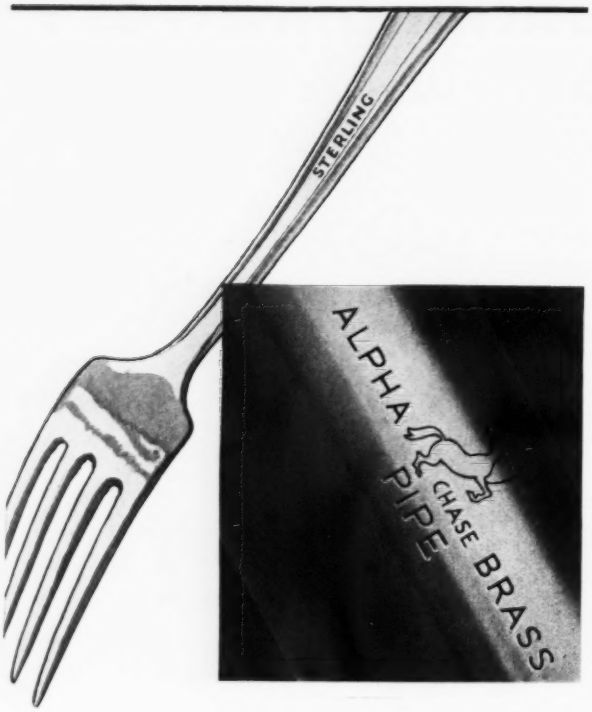

Silver is marked "Sterling" only when it measures up to definite standards of manufacture. So, too, the Chase Mark, stamped on every 12 inches of Alpha, guarantees your getting a brass pipe made to rigid specifications. The next time you use brass pipe, ask your jobber to send Chase Alpha Brass Pipe with its Guarantee-mark stamped on it.

CHASE
The mark that identifies good brass and copper products

CHASE *Alpha* BRASS PIPE

CHASE BRASS & COPPER CO.—Incorporated—WATERBURY, CONN.

Elmer K. Ross, chairman of the club's membership committee, talked briefly on contacts and good-fellowship. "Rubbing elbows with one's competitors as well as those engaged in other branches of the industry is of value to us all." He then announced the names of three new members: Phil. Hunt of the Hoffman Specialty Co., T. Mixter of the Standard Sanitary Mfg. Co., and Leland Green.

◆

Michigan Trade Golfers Have Successful Season

Officers of the Michigan Trade Golf Association report that the organization has enjoyed a successful season this year. The president of the association is Tom Brown. That attendance at the tournaments has been good is indicated by the following scores received from Alvin E. Alvey, assistant secretary. The scores for the July tournament, which was held at the Tam O'Shanter Country club, follow:

Name	G.	H.	N.	Name	G.	H.	N.
C. W. Gudnau...	99	19	80	H. J. Taylor.....	90	12	78
E. J. Anderson..	83	8	75	I. R. Kanack....	108	30	78
T. Brown	85	12	73	Wm. Brown	99	16	83
T. C. Drouillard.	94	..	..	T. Lynch	87	..	..
R. J. Mullally...	95	22	73	F. D. Cooper....	112	28	84
Al. E. Alvey.....	104	28	76	R. Deppmann ..	112	24	88
E. L. Kline.....	91	18	73	J. Ewald	110	30	80
R. W. Light.....	108	..	..	L. McConachie ..	104	25	79
J. E. McFate....	96	30	66	J. DeWitt	121	40	81
E. Glanz	105	..	..	J. Lansing	97	..	..
W. Erickson	119	..	..	J. Rousseau	105	..	..
C. H. Soderberg.	93	..	..	L. Dines	107	28	79
E. W. Sheeley...	91	18	73	H. Rylander	119	36	83
J. B. Whiteford.	99	24	75	E. Isaacson	110	..	..
H. C. Nanneh....	100	..	..	R. F. Connell....	99	20	79
J. B. Stewart....	113	32	81	C. M. Sorley.....	99	25	74
E. M. Decker....	126	25	101	J. W. Pithford..	100	..	..
R. Roach	130	..	..	T. P. Christman.	102	20	82
R. W. Brown....	99	..	..	F. E. Ritzenhein.	108	25	83
D. M. Kenney...	110	32	78	T. L. Jackson...	103	26	77
S. L. Franklyn..	90	15	75	L. R. Mendelson.	93	..	..
M. J. Harti.....	98	..	..	E. Sanger	113	32	81
M. B. Allen.....	109	..	..	H. D. Coleman...	107	26	81

William Brown was host at the July meet. The following received prizes: J. E. McFate, Earl Sheeley, Tom Brown, Earl Kline, Ira Kanack, L. L. McConachie, J. Rousseau, Fred Cooper, Ernest Sanger and A. R. Alvey.

The scores made at the previous monthly tournament are given below. This meet was held at the Birmingham Golf and Country club, with Earl Sheeley as host. Those who won prizes were: Harold Taylor, Tom Brown, Ed. Anderson, Earl Sheeley, C. W. Gudnau, Sam. Franklin, Ira Kanack and Frank O'Connell. The scores:

Name	G.	H.	N.	Name	G.	H.	N.
Larry Walsh ...	118	30	88	F. DeWitt	130	..	..
C. W. Gudnau...	99	20	79	J. Lansing	106	..	..
A. Alvey	114	28	86	R. E. Moore.....	95	..	..
R. Bird	114	..	..	H. O. Nelson....	124	26	98
D. M. Kenney...	113	32	81	L. L. McConachie.	114	24	90
E. L. Kline.....	99	17	82	E. D. Sheeley...	97	18	79
Tom Brown	90	12	78	J. E. McFate....	114	30	84
F. D. Cooper....	118	28	90	I. R. Kanack....	116	30	86
R. K. Milward..	102	17	85	D. S. Wexler....	156	..	..
H. Rylander	120	26	94	M. H. Prince....	109	26	83
F. O'Connell ...	108	23	85	S. C. Golden.....	107	..	..
E. J. Anderson..	86	8	78	H. C. Namnen...	107	..	..
H. J. Taylor.....	90	14	76	H. M. Stephen...	111	..	..
C. J. Taylor.....	105	..	..	H. M. Armstrong.	102	16	86
W. F. Sheeley...	99	..	..	J. H. McCann...	114	..	
E. Sanger	119	32	87	Paul Vance	136	..	..
R. H. Gordon....	130	..	..	Roland Guilford.	115	32	83
R. F. Connell...	112	18	94	H. D. Coleman..	113	..	..
J. B. Whitford..	110	21	89	S. L. Franklin...	94	15	79
R. L. Deppmann.	107	24	83				

CAPITOL 914 SINK FIXTURE

For the moderate priced home, where costs are a vital factor, this Capitol 914 Sink Fixture presents a neat, dressed-up appearance and at a very reasonable price.

Nickel plated, the handles and soap dish are of china. Metal handles and metal soap dish can be supplied at slightly increased cost. With drain at rear, the soap dish sets well down between the handles on a short, securely fastened stud. 8 inch centers with female eccentric or male adjustable couplings.

A true Capitol fixture throughout, it is a remarkable value. Workmanship equals that of our highest priced sink fixtures.

The complete line of Capitol plumbing fixtures is handled by the leading plumbing supply houses. Install them and insure customer satisfaction.

Bohn Aluminum & Brass Corporation

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DETROIT~MICHIGAN

Little Leaks *are* BIG CHEATS!

Faulty air valves give rise to all kinds of trouble in the heating system. Little leaks are the big cheats that deprive home and building owners of the full measure of comfort and convenience from heating systems.

Such leaks result in cold or balky radiators, more frequent firing periods and greater fuel costs.

YOU can put an effective stop to radiator valve trouble for your customers with one of the valves from KELLY'S complete line.

Keep supplied with KELLY Valves and use them to check the heating systems in your community. KELLY Valves operate under all pressures up to 10 pounds, venting the radiator against air and closing against steam and water.

KELLYS are completely automatic, require no adjustment and are absolutely tamper-proof. Guaranteed for 5 years. Write today for complete information.

KELLY BRASS WORKS

226-32 W. ONTARIO ST.
CHICAGO

Heating Association Formed in Omaha, Nebr.

A meeting of some eighty representatives of solid fuel and related equipment industries at the Hotel Fontenelle, Omaha, Nebr., on August 20, resulted in the organization of the Omaha Better Heating Association, to co-operate with the Committee of Ten, Coal and Heating Industries.

Among those appointed to the board of directors of the new organization were: W. M. Ord of the American Radiator Co., representing the boiler and radiator manufacturers; Henry H. Kruger, representing the heating and piping contractors; and Hollis M. Johnson of American Appliance Co., representing manufacturers of automatic heat control devices.

Homer R. Linn of the American Radiator Co., Chicago, and Oliver J. Grimes, representing the Committee of Ten, addressed the meeting.

Convention Dates

October 12-16, 1931—A. G. A.—The 13th annual convention and exhibition of the American Gas Association to be held at Atlantic City, N. J.

October 28 and 29, 1931—C. S. A.—The 37th annual meeting of the Central Supply Association, to be held at the Palmer House, Chicago.

March 14, 15 and 16, 1932—INDIANA—The annual convention of the Indiana Association of Master Plumbers, to be held at Muncie.

April 27-29, 1932—N. P. S. A.—The annual convention of the National Pipe and Supplies Association, to be held at the Greenbrier Hotel and Cottages, White Sulphur Springs, W. Va.

COMING TRADE EVENTS

September 19, 1931—The annual outing of the Master Plumbers' Association of Nassau County (N. Y.), to be held at Narragansett Inn, Lindenhurst, Long Island.

September 19, 1931—The regular meeting of the Federation of Merchant Plumbers of Southern California, to be held at Santa Barbara.

September 21, 1931—The sixth tournament of the Central Trades Golf Association of Pittsburgh, Pa., to be held at the Latrobe Country Club, Latrobe, Pa.

October 22 and 23, 1931—The seventh annual meeting of the Missouri Water and Sewerage Conference, to be held at Jefferson City, Mo.

September 23, 1931—The fifth golf tournament of the Plumbing Contractors' Association of Chicago, to be held at Oak Hills Golf Club.

September 23, 1931—The fourth tournament of the Plumbing and Heating Golf Association of New York, to be held at the Westchester Country Club, Rye, N. Y.

September 24, 1931—Monthly tournament of the Eastern Trade Golf Association, to be held at Echo Lake Country Club, Westfield, N. J.

September 26, 1931—Meeting of the Northern California Federation of Plumbing and Heating Industries, to be held at the Saint Claire Hotel, San Jose, Calif.

October 5-10, 1931—The tenth annual meeting of the Pacific Coast Building Officials Conference, to be held at Berkeley, Calif.

October 6, 1931—Monthly tournament of the Eastern Trade Golf Association, to be held at Woodmere Country Club, Woodmere, Long Island, N. Y.

October 20, 1931—The fifth tournament of the Plumbing and Heating Golf Association of New York, to be held at Kings Ridge Club, Portchester, N. Y.

November 16-21, 1931—The Third International Conference on Bituminous Coal, to be held at Carnegie Institute of Technology, Pittsburgh, Pa.

January 25-29, 1932—The Second International Heating and Ventilating Exposition, to be held in Cleveland, Ohio.

AUTOMATIC HEAT

A new editorial service for the growing number of heating dealers who are bringing higher standards of comfort and convenience to the American home

In this Issue:

Oil Burner Installation Makes Money for This Office Building

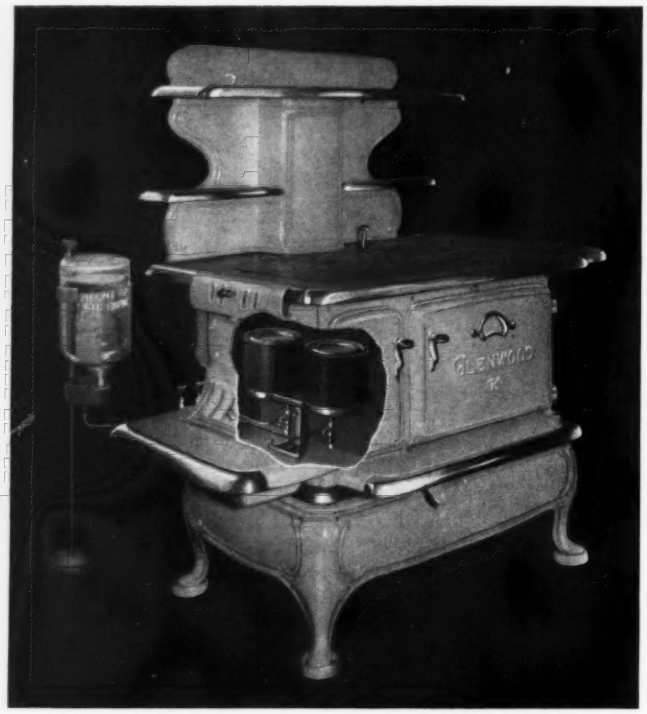
Surveys and Service for Stokers

Gas—How One Dealer Has Created a $150,000 Business Beyond the City Mains

Timing a Boiler Installation as You Would a Tee Shot

AUTOMATIC HEAT

THERE IS NO RANGE BURNER LIKE IT IN RESULT, IN PERFORMANCE, IN VALUE



THE Silent Glow Kitchen Range Burner (Model W) is supreme in its field. It represents the pinnacle which others strive to attain.

Over 90,000 housewives acclaim Silent Glow. It is the most popular range burner in existence. Only Silent Glow has these important, exclusive features—each a selling argument no competitor can upset.

The Exclusive Superheater—which makes the Silent Glow the fastest starting of all range burners.

Patented Deflector Rings—which insure an even heat at all times.

Patented Cadmium Plated Self-cleaning Oil Feed—which insures an even flow of oil at all times.

Exclusive Microfeed Valves (Patent applied for)—which enable you to set your burner accurately at any degree of heat wanted and repeat as often as desired.

Exclusive Reservoir (Patent applied for)—containing two features: the Reversflo Filter, which deposits in an easily cleanable pocket the sediment in the oil before it reaches the final strainer and the Reddylite, which is always ready to be lighted on instant notice and is automatically extinguished when returned to its receptacle.

The Silent Glow is the only burner which carries a 5-year factory guarantee, backed by a $10,000 cash deposit.

And the men who sell Silent Glow are being featured now in all our advertising; on 23 radio stations, in magazines, etc. There's a wonderful future in store for every Silent Glow man who'll work. Ask us about it today.

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6320 St. Hubert Street, Montreal, P. Q.

Member American Oil Burner Assoc. *Member Oil Heating Institute*
Member National Electric Light Assoc *Member Distillate Burner Mfrs. Assoc.*

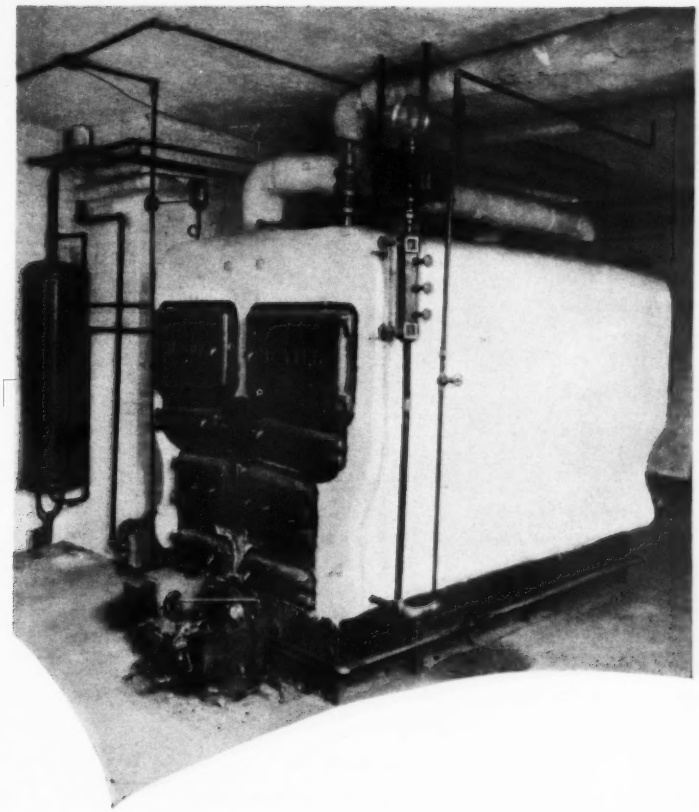

Fig. 1—Here is a front view of the boiler and oil burner showing the appearance of the boiler room after the changes were made

Oil Burner Installation Makes Money for this Office Building

By J. K. STONER

THE general office of the Landis Machine Company, Waynesboro, Pa., was originally a three-story building. The basement floor was used for office rooms and the boiler was placed on the same floor at a somewhat lower level.

The heating job was originally a one-pipe steam system with mains and branches of sufficient size to heat a three-story office building. The radiators were fitted with cheap air valves which were tapped close to the bottom of the radiator and required from five to ten pounds of steam at the boiler to get rid of all of the air in the mains and the radiators before sufficient heat was available for warming the rooms. With five or ten pounds of steam there was an uneven distribution of heat. It was spotty.

There were quite a few long runs from the boiler to the other end of the building and this made a very sluggish job. The heating contractor spoke to the officials of the company in regard to changing this job over into a system which would be more satisfactory than the old one-pipe steam system, but nothing was done at that time.

The old system burned one hundred tons of coal. This cost them three hundred and eighty-eight dollars alone. There was an additional cost of one dollar per ton for unloading, handling, and hauling the coal from the cars to the office. Their janitor service cost them ten dollars per week and he was employed thirty-two weeks of the year. The total cost for heating their office was as follows:

100 tons of coal	$388.00
Hauling and unloading	100.00
Janitor service	320.00
Total	$808.00

About one year after the contractor's interview with the officials of the company, they decided to add another story to their building at which time they called for a lay-out and prices for making the necessary changes in the heating plant. Two thousand square feet of radiation were to be added to the original three thousand square feet.

The first change found necessary was to enlarge the boiler and put a six inch steam header on same as the old mains came directly off of the boiler without a header. It was not necessary to change any of the main lines or branches, the risers all being

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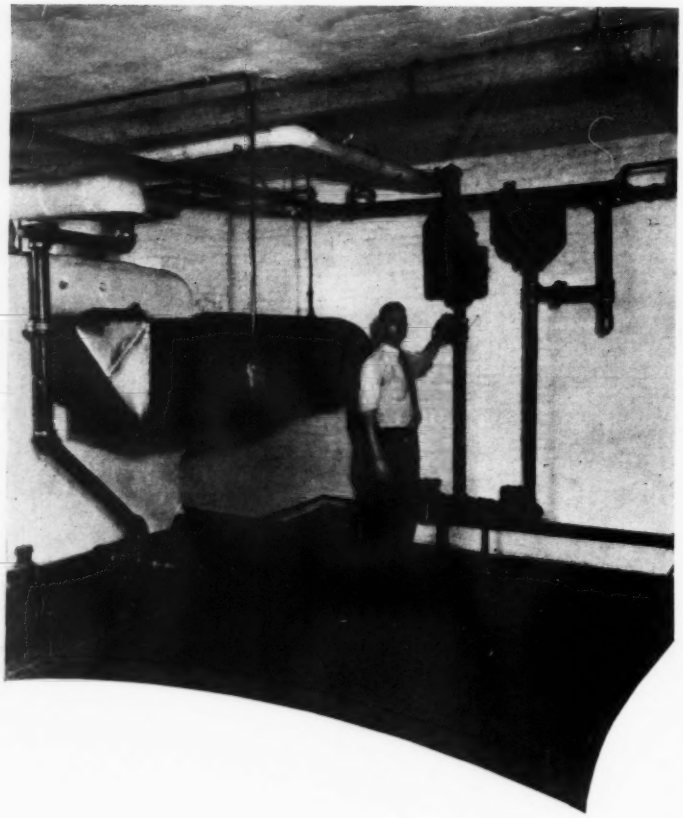


Fig. 2—Here is a rear view of the boiler with the vent trap and the return trap in evidence. The breeching is at the left and a stack temperature control is shown attached

sufficiently large to take care of the fourth floor radiators after connecting all of the first, second, third and fourth floors with valves and return traps.

Before the job was fully completed, the contractor approached the company upon the idea of using oil heat in the building. He estimated that they would use about fifteen thousand gallons of oil per season and that the cost would run less than coal. They were very much pleased and sanctioned the installation of an oil burner.

They estimated that if they had used coal instead of oil, the additional story would have taken an extra sixty tons of coal, a liberal sum since there was much exposed glass on this floor. This would add sixty dollars to the cost of hauling and unloading. The janitor service would be about the same. The building could have been heated with coal at the following cost:

160 tons of coal	$ 620.80
Hauling and unloading	160.00
Janitor service	320.00
Total	$1,100.80

During the two seasons the burner has been in operation, they have averaged fifteen thousand nine hundred and sixty-four gallons of oil. This cost them one thousand and eighteen dollars; a saving of exactly eighty-two dollars and eighty cents per heating season over the old system. There was no charge for unloading the oil since it was pumped out of the oil car by compressed air, the main use of which was for other purposes and charged directly thereto.

The contractor's bid for the entire job including oil burner was six thousand dollars. The difference saved by firing a modernized system with oil and an obsolete system with coal would amount to a two per cent interest return on the company's investment, using eight months as a basis, since the system is only in use during that length of time.

The matter of depreciation is negligible since the cost of replacing grates in the old system balances the wear and tear of the oil burner in the new.

The boiler now heats their entire building with less than one pound of steam in the severest weather. The building has a total of five thousand square feet of direct radiation heated automatically, being regulated by a thermostat located on the fourth floor.

The actual money saved is small compared to the value expressed in the cleanliness and efficiency of the new system. The place which was once used for storing coal has now been furnished into an office room and filing equipment has been installed.

By just revising the heating system, using the same boiler, mains, risers and radiators, an obsolete plant was transformed into a modern heating system which pays interest on its investment.

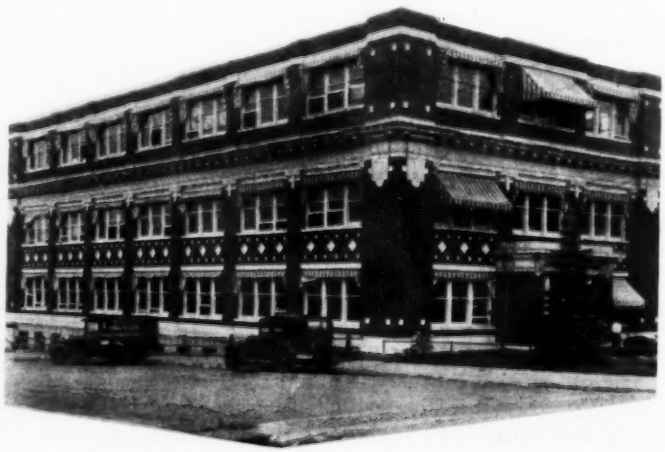
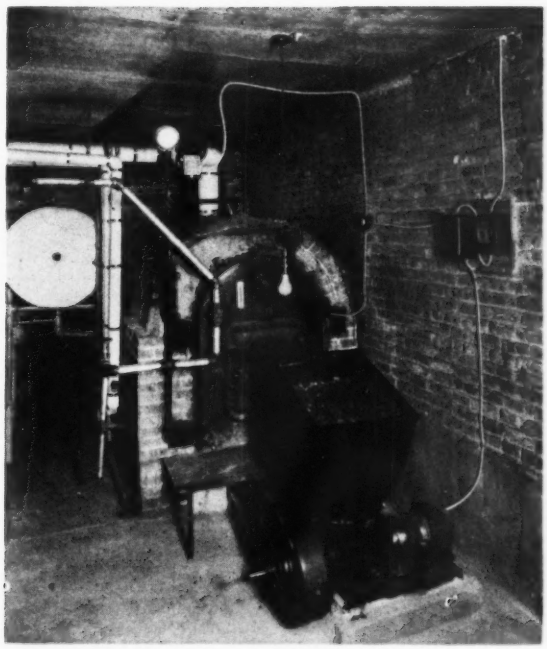


Fig. 3—The top story was added to this building and it required changes in the heating plant. This gave the heating contractor an opportunity to illustrate to the owner the economy of oil



An installation of a stoker following a survey

Surveys *and* Service *for* Stokers

By NOEL CUNNINGHAM

MANY dealers, other than heating contractors, who have had experience in selling household utilities and who have become merchandisers of heating equipment have made tactical blunders because of a failure to appreciate that the heating business has become conventionalized through generations of development. Efforts to introduce into the home such comparative novelties as the radio, the electric refrigerator and the washing machine have not encountered a hard and fast economic situation which is a result of long established trade practices. In buying these household utilities trade consultation and advice to customers is seldom sought or given. However, before purchases of heating specialties are made, usually there is sought the advice of some heating contractor who has done work in connection with the plant which it is proposed to modernize. If it is a new plant the prospective customer will endeavor to find out what his regular heating man has to advise.

A more favorable situation hardly could be visualized for the established heating contractor who has extended his business activities to include the handling of stokers. As counselor in his locality in matters pertaining to the heating plant, he becomes the logical one to handle the application and installation of all equipment which in any way affects the operation of the basic heating design.

The installation of a stoker in equipment which has been designed and installed as a hand fired job calls for a thorough knowledge of the ways in which the device will change or modify the operation of the original plant.

This article deals with some of the many factors which must be considered when stoker installations are made.

Making House Surveys

The important things to know prior to installing a stoker in a residence are:

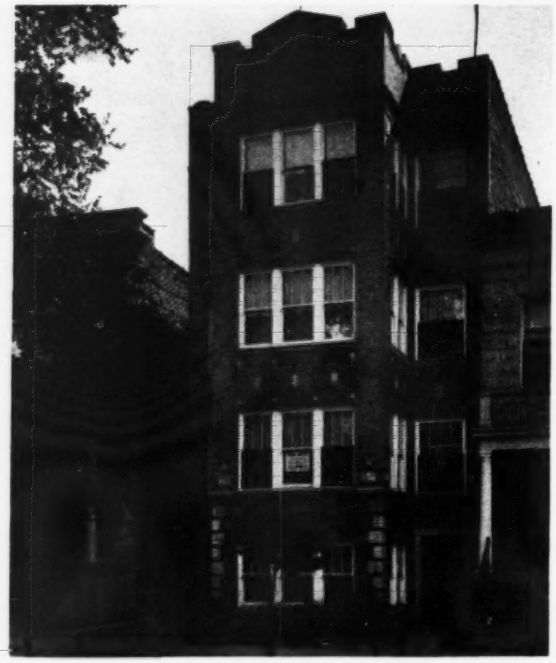
(1) The responsibility of the owner.

(2) The make, size and condition of the heater.

(3) The amount and kind of fuel used in both average and exceptional heating seasons; where coal has been used, the name of the regular coal dealer.

INSPECTION MADE	*(Date)*
LOCATION	*(Owner)*
	(Address)
HOUSE DESCRIPTION	*(e.g. Brick, Frame, etc.)*
HEATER	*(Manufacturer and Heater No. and Style)*
Condition	*(Dimensions at Grate Level)*
Ash-Pit Opening	*(Dimensions at Fire Door)*
BASEMENT	*(e.g. Concrete floor, dry, wet, etc.)*
SPACE FOR BURNER	
KIND OF HEAT	*(e.g. Oil, Gas, Hand Fired Stove, Nut, etc.)*
SATISFACTION	
AUTOMATIC CONTROL	*(Make and Condition)*
HEATING LOAD	*(From Reverse Side, Total)*
HOUSE SURVEY	*(From Reverse Side, Total Required)*
CONTRACTOR	*(Who made original installation)*
COAL DEALER	
REMARKS	*(e.g. Make and Condition of Radiator Valves, whether Using Coal and Considering Oil, etc. and Reasons; Source of Lead, etc.)*
	SIGNED

AUTOMATIC HEAT



This is the building surveyed for installation shown on preceding page

(4) If automatic control is used, its make and condition.

(5) The house heating load.

(6) The correct house load.

(7) Whether the house heating has been satisfactory.

(8) The firm or individuals who made the original heating and piping installation.

Often all of this information is not needed and sometimes all that is needed can be obtained from the contractor's own files if he is the one who made the original installation. However, even when a thorough survey is not made, there should be an inspection.

HOUSE SURVEY	HEATING LOAD
ROOMS	HEATING UNITS (Radiation)
OUTSIDE AREA SQ. FT.	No. Columns / Tubes — Height Inches — Section — Radiation
Ceiling	
Wall — Window — Unheated — Exposure	
(REVERSE SIDE OF ABOVE)	
Service Hot Water Tank	*Diam. Height Gallons Coverg.*
Attachment	*Equiv. Radn.*
Total Radiation	
Required	Installed

In making a house survey an inspection card should be filled out and a suggested form is shown herewith. When information is not complete the reason should be noted. Often a year or more may elapse between the time a survey is made and the time when finally the order for the stoker installation is received. All information should be on file for immediate reference so that there may be a minimum of delay between the time of finding a customer in a mood to buy and obtaining his formal order. Before accepting a delayed order, however, there should be assurance that the physical condition of the plant has remained unchanged since the survey was made, particularly as to increases in the load on the boiler or the radiation due to house alterations.

Need for Boiler Description

Usually the manufacturer's name and the number cast on the heater is the most significant single item of information in a house heating survey. The number, of course, at once indicates the heating capacity. Some boilers are better adapted to stoker installation than others, also stokers give better economy in some boilers than in others. This is most noticeable in round boilers. Where there is no intermediate section and special provisions described later are not made, the same heating effect is secured by hand firing with about three-quarters the coal as when stokers are used, whereas with one intermediate about the same amount of coal is used and with two intermediates the stoker normally uses less coal.

The capacity of cast iron boilers is dependent upon the amount and distribution of the heating surfaces. In cast iron boilers the whole inside from the grate level to the water level is heating surface. Hot water boilers are practically identical with steam boilers. The heating surface includes the dome, which in steam boilers is of little value as a heating surface.

Most boilers are the same area at the grate level as at the fire door. It has been customary when considering hand firing in cast iron boilers to base capacity chiefly upon grate area, but in stoker use the inside area at the fire door is generally more nearly proportional to the effective heating surface. Table 1 contains a tabulation of approximate hot water boiler capacities.

Why Service Calls May Be Made

Where installations are made carefully and after an accurate survey there are few later calls for service. Excessive service is usually the result of incorrect surveys or faulty installations. The usual calls made by customers for service are:

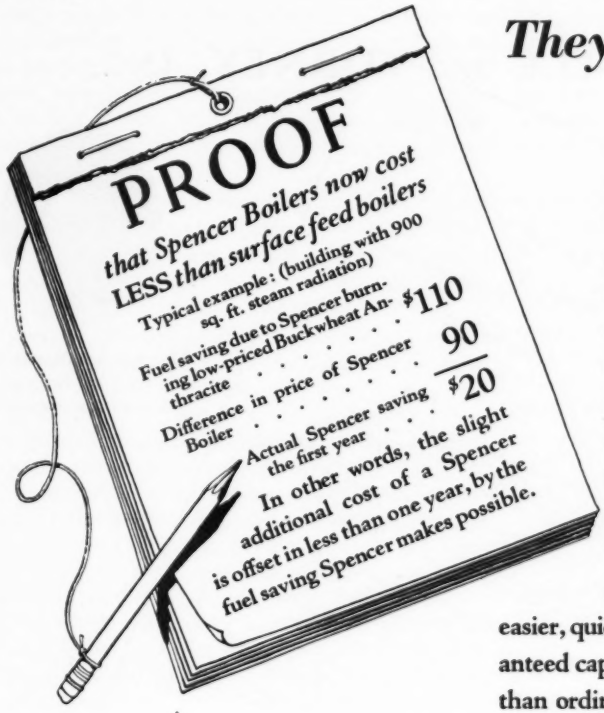
(1) *Fire Out*—This may result from a number of causes, (a) failure of fuel supply. Rank carelessness on the part of a certain proportion of customers is to be expected. (b) Air adjustment very bad, due to regulation having slipped or having been tampered with, or a radical coal change without readjustment of air setting. (c) Timing device out of order in intermittent firing.

(2) *Insufficient Heat*—This is apt to occur during

At the New Low Prices

Spencer Boilers No Longer Cost More

They Actually Cost LESS


PROOF
that Spencer Boilers now cost LESS than surface feed boilers
Typical example: (building with 900 sq. ft. steam radiation)
Fuel saving due to Spencer burning low-priced Buckwheat Anthracite $110
Difference in price of Spencer Boiler 90
Actual Spencer saving the first year $20
In other words, the slight additional cost of a Spencer is offset in less than one year, by the fuel saving Spencer makes possible.

As shown in the typical heating problem, the price of a Spencer Magazine Feed Boiler is now so little more than that of a surface feed boiler that the difference is offset in less than one year by the fuel savings a Spencer makes possible. Because the Spencer burns No. 1 Buckwheat Anthracite which costs $5 a ton less than the larger size fuels used in surface feed boilers. In addition to this saving, a Spencer has all the exclusive advantages of Magazine Feed; labor-saving, steady, uniform, clean, automatic heat; easier, quicker erection; precision manufacture; guaranteed capacities. A Spencer, as always, is worth more than ordinary boilers; but it no longer costs more.

Show Your Customers How Spencer Heat Pays Yearly Dividends But Charges No Premium

Each year, the fuel savings pay the home-owner a handsome return on his Spencer investment. Now this Spencer selling feature is more potent than ever, because at the new low prices, these savings pay back the entire cost of the boiler in four or five years. Hundreds of orders pouring in from heating contractors all over the country prove the truth of our claim that these new low prices multiply the size of your market for Spencer Boilers, many times over. The Spencer line is now more complete than ever, and EASIER TO SELL. Have you re-figured all your outstanding jobs, to use Spencer Automatic Heat on the new price basis? Do so today, and watch your sales and profits grow.

SPENCER HEATER COMPANY, Williamsport, Pennsylvania

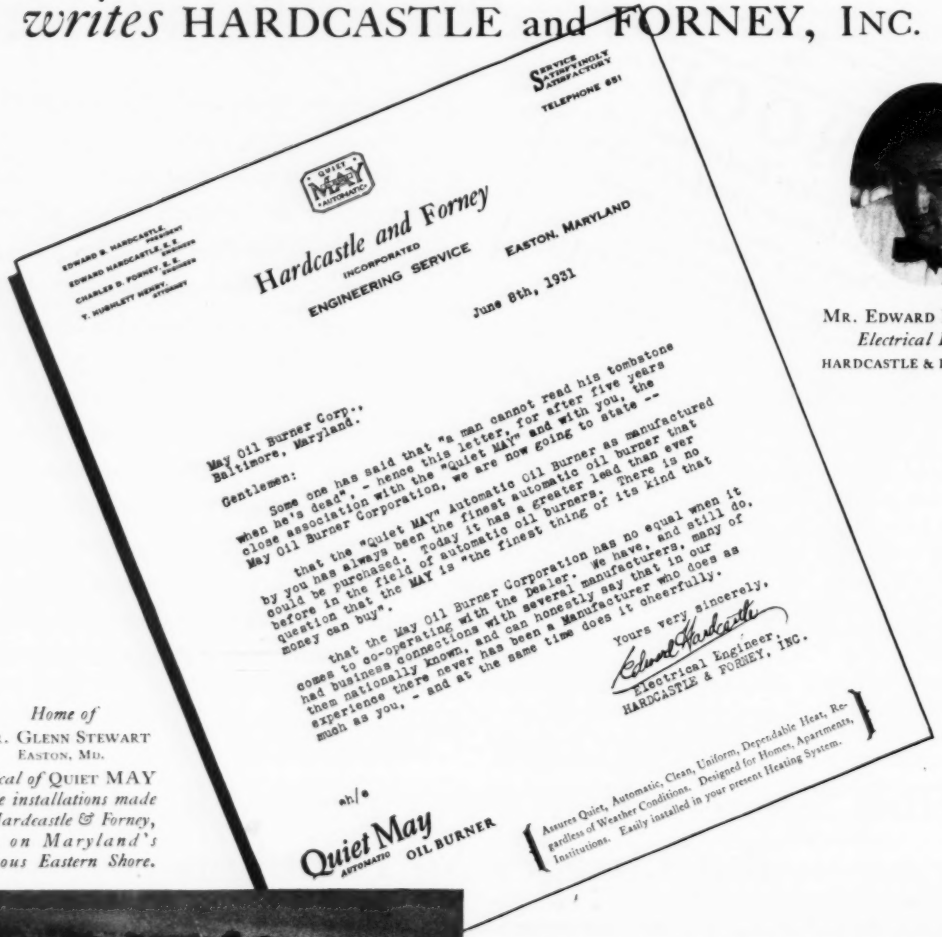
Spencer Heater Company of Canada, Ltd., Toronto, Ontario

SPENCER
Magazine Feed
BOILERS
for steam, vapor or hot water

AUTOMATIC HEAT

"After 5 years close association with QUIET MAY"...

writes HARDCASTLE and FORNEY, INC.



Hardcastle and Forney
INCORPORATED
ENGINEERING SERVICE EASTON, MARYLAND

June 8th, 1931

May Oil Burner Corp.,
Baltimore, Maryland.

Gentlemen:

Some one has said that "a man cannot read his tombstone when he's dead". - hence this letter, for after five years close association with the "Quiet MAY" and with you, the May Oil Burner Corporation, we are now going to state --

that the "Quiet MAY" Automatic Oil Burner as manufactured by you has always been the finest automatic oil burner that could be purchased. Today it has a greater lead than ever before in the field of automatic oil burners. There is no question that the MAY is "the finest thing of its kind that money can buy".

that the May Oil Burner Corporation has no equal when it comes to co-operating with the Dealer. We have, and still do, had business connections with several manufacturers, many of them nationally known, and can honestly say that in our experience there never has been a Manufacturer who does as much as you, - and at the same time does it cheerfully.

Yours very sincerely,
Edward Hardcastle
Electrical Engineer,
HARDCASTLE & FORNEY, INC.

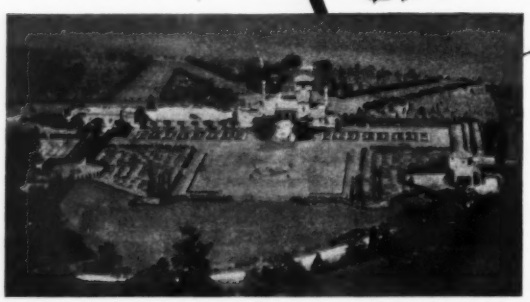
eh/e

Quiet May AUTOMATIC OIL BURNER

Assures Quiet, Automatic, Clean, Uniform, Dependable Heat, Regardless of Weather Conditions. Designed for Homes, Apartments, Institutions. Easily installed in your present Heating System.

MR. EDWARD HARDCASTLE
Electrical Engineer
HARDCASTLE & FORNEY, INC.

Home of
MR. GLENN STEWART
EASTON, MD.
Typical of QUIET MAY *estate installations made by Hardcastle & Forney, Inc. on Maryland's Famous Eastern Shore.*



Thank you, Mr. Hardcastle! That tells men interested in an oil burner franchise a few of the things they want to know about QUIET MAY. The rest they can get by writing direct to:

NEW BUSINESS DIVISION • • MAY OIL BURNER CORPORATION • • BALTIMORE, MD.

QUIET MAY
AUTOMATIC OIL BURNER

the first cold snap of the heating season and usually is due to the load on the heater having been underestimated at the time of the stoker installation and the rate of coal feed having consequently been set too low. Excessive dust in the coal feed causes a diminution in the radiant heat effect and a consequent lowering of the effectiveness of the stoker. This is apt to occur during periods when a customer is using the last of the coal in his bin. A number of other causes may contribute to a loss of heating efficiency, e.g., dirty boilers or dirty boiler water, pipe corrosion, air valve failure, etc. These, while in no way due to faults in the stoker, should be investigated and customers should be advised as to the best remedies.

(3) *Noisy Operation*—Some part of the machine working loose, wear or bad alignment will cause noise. Some part of the stoker mechanism in contact with a metal portion of the heater or piping will transmit a vibration plainly heard through floors above.

(4) *Excessive Amount of Unburned Coal in Ashes*—Efficient heater operation is not compatible with complete burn-out of fuel. If sufficient air is used to so reduce the unburned carbon in ashes as to make it not apparent (below 10 per cent) the excess air required causes a loss of heat up the stack which is much greater than the comparatively small loss of combustible which is evident in the ashes when the stoker is operating efficiently. A good burn-out of coal is a certain indication of excessive stack loss. It is often impossible to convince a customer on this point and it may be necessary to set the air unduly high and waste some of the customer's coal in order to prevent repeated complaint. Poor combustion is of course often due to imperfect air adjustment.

(5) *Gas in the Basement or House*—A balanced draft is essential to best results and new installations should be set to operate with the smallest possible practicable stack pull. However, in time the heater gas passages may become choked with fly ash, or the blocking may be moved, causing back pressure and the forcing of gases of combustion into the basement.

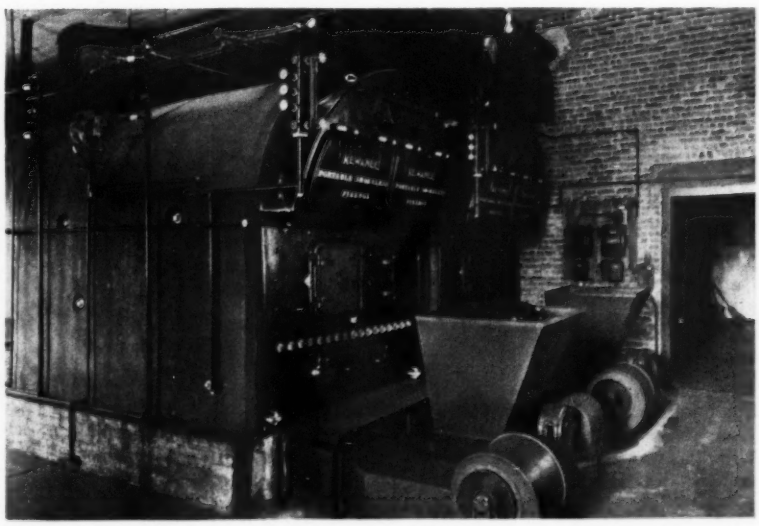
(6) *Blockage of Ash-Removal*—When ash containers are allowed to overfill to a point where ashes can no longer discharge from the elevator, blockage results and the pin or safety device which is placed in the driving mechanism as a protection against complete stoppage of the stoker will eventually shear or operate. It is then necessary to clear the ash system and replace the shear-pin or reset the safety device. Ash receptacles, wherever possible, should be so arranged that spillage will take place onto the floor, the container filling and overflowing instead of backing ashes into the conveying and elevating system. Often rubbish, especially wadded papers, are thrown into the combustion chamber to be burned. Rubbish or partly burned wadded paper, falling into the ash removal system, often will produce stoppage.

In some types of stokers the formation of hard clinkers throws a strain on the ash removal mechanism, but, while causing considerable noise as the clinker crushes, it seldom causes complete stoppage. It is not necessary to supply service immediately in case of breakage of the shear-pin in the ash removal system. No great harm can result in a day or even two days. Ashes will accumulate in the heater ash-pit and around the stoker. However, if accumulation of ashes is allowed to continue, overheating results and there may be a warping or even a complete burn-out of a portion of the ironwork.

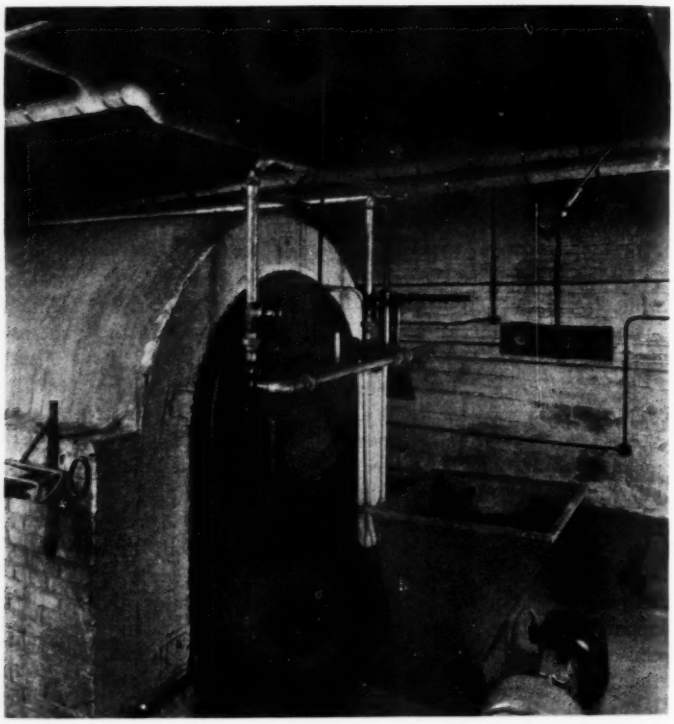
Causes for Complaint Not Due to Stoker or Boiler. Where stokers are used, anything which goes wrong anywhere in the heating system is apt to call forth a complaint that the stoker is not functioning properly. It is essential to the conduct of a successful stoker business to maintain among users a wholehearted respect both for the equipment and the dealer. Satisfied customers are a dealer's best salesmen, and in order to keep customers satisfied all complaints, whether or not justified, must be handled with equal promptness and good nature.

Air in Hot Water Radiators

Where a hot water heating system has heated a house and failure to heat is complained of, and where the burner, upstairs control or quality of coal are not at fault, the trouble usually will be in failure to let the air out of the radiators. A stoker service man should always carry a key for opening hot water radiator valves. Open the air valve on each radiator, holding a glass under the valve. Wait until the air stops coming through and draw off about half a glass of water. Usually, after the radiators



A larger job, where controlled firing was essential



Students in the building served by this stoker have even, comfortable temperatures

are freed of air, the heating will be as satisfactory as ever. If air in the radiators is not the trouble, it may be due to poor circulation. Pipes may be badly corroded or sediment may have accumulated. It is always well, when the complaint is that upstairs rooms are not heated, to be sure that the system is full of water.

Dirty Steam Boiler Water

In steam plants a quite usual cause of failure to heat is dirty boiler water. The upper surface of the water in a boiler acts in every way like a skin. This effect is known as surface tension. There is a quite definite amount of force required to break this surface tension. Where there is a film of oil on a water surface or when the water contains certain chemicals, the surface tension is increased to a point where bubbles of steam which form below the surface are unable readily to escape; they then accumulate sufficient force to break through with considerable violence; the steam comes in bursts at intervals instead of being freed evenly, steadily and continuously as is required for best results.

Usually the condition which causes high surface tension and consequent unsteady steam generation causes also the accumulation above the water surface of a mass of foam and bubbles. This obstructs the space needed for proper flow of steam, which then escapes from the boiler violently and irregularly, often carrying considerable liquid with it into the mains and often all through the system. The filling of the steam space is known as foaming and the additional effect of liquid being carried into the piping is priming.

Draining off dirty boiler water and replacing with fresh water usually fails to correct the trouble. A greasy deposit is left on the boiler surfaces after draining and the new water picks this up and the situation is as bad as ever. Better results are obtained by skimming, which consists in running in fresh water at the bottom of the boiler and venting surface water at the top. Skimming must be continued for a long time to be effective and seldom entirely corrects the trouble, due to the tenacity with which a greasy element will cling to the rough metal surfaces.

The best remedy for dirty boiler water is the use of chemicals which react to cut oily and greasy elements and which coagulate the dirt into large enough bodies to allow its sinking to the bottom of the boiler where it can be drained off.

How to Test Boiler Water

At the time of making a stoker installation in a boiler, part of the routine should be to test the boiler water and if it is found to be dirty to remedy it. If the boiler is under fire a steady height in the water glass when the boiler is operating at capacity is an indication that the water is clean. If the water height varies more than ¾ in. the indication is that the water is dirty, although unsteadiness may be due to other causes, e.g., steam space too small, outlet piping too small, water level too high, boiler being pushed beyond capacity, vacuum forming in the return lines, bottom gauge glass connection in a very active section of the boiler.

The following tests are useful in determining whether or not boiler water is dirty:

(1) Draw off some of the water through the upper trycock and shake it thoroughly in a clean bottle; if lasting bubbles form on the surface, it is probable that the water is dirty.

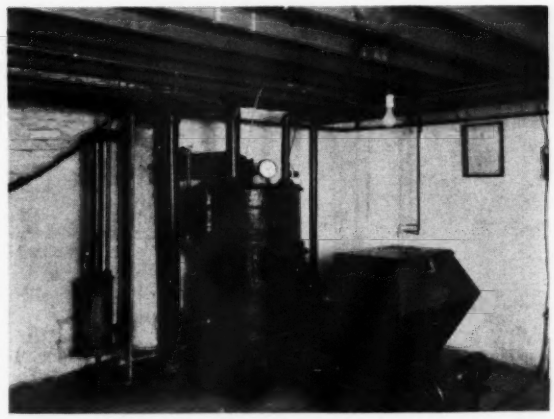
(2) Draw off some boiler water and place it in a pan over a gas flame, at the same time heating in another pan some tap water. If the tap water boils more readily the boiler water probably is dirty. If the boiler water is not only slow to boil but also foams up while boiling it is certainly dirty. The effect of oil in boiling water can be shown clearly by adding a few drops of oil to water boiling in a pan.

(3) Build up a boiler pressure of 2 lb. or more and

fasten open the safety valve. Keep up the pressure and note after a minute or two if water continues to pass out with the escaping steam. The presence of water proves that the boiler is foaming and priming.

The usual method employed in cleaning greasy dirt out of boilers is as follows:

Connect a pipe as large as possible to a tapped top outlet. Often a blow-off tapping is provided in the boiler for the purpose. If possible, run the pipe to a drain; if not, run it to a bucket on the floor. Raise the water level to allow a small flow through the pipe. Bring the boiler pressure to 2 lb. or more and flow water in at the bottom, overflowing at the top. Continue till the overflow tests clean. About an hour before usually beginning to skim is best time to put into the boiler a cleaning compound.

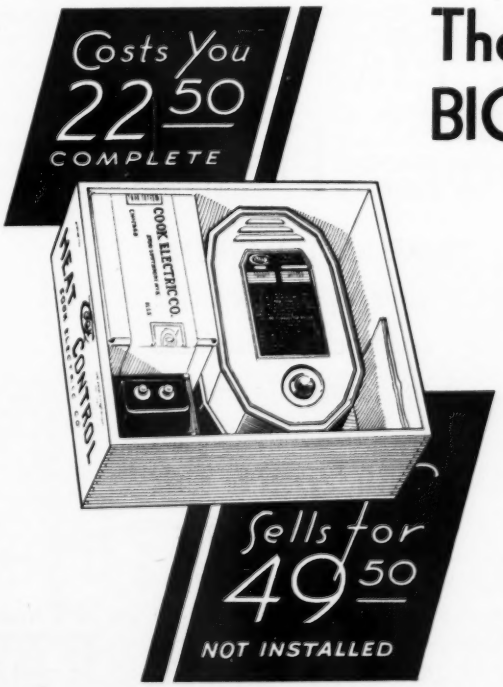


Another residence stoker installation that is performing satisfactorily

Summer Service

Service during the more active portions of the year can be greatly reduced by featuring a summer overhaul. It will be found that a majority of stoker users will accept a proposal that involves taking the stoker out of the heater, thoroughly cleaning and oiling all parts and replacing badly worn parts, all replacements being charged for in addition to the base charge for cleaning and oiling. In addition the heater should be cleaned and given a wash of asbestos over all insulation and a coat of black paint over all metal parts. The stoker should be replaced and filled with oil-soaked coal, after being run to assure that the motor is in good order. This service returns a satisfactory income and allows keeping the service crew intact during the slack sales period as well as minimizing service calls during the early heating season when the installation and service force is usually active on new business. A responsible official of the company always should investigate to assure that this summer service is being done properly.

It should be kept in mind that service merges into merchandising. Good service is essential to maintaining a satisfactory volume of sales. Usually free service is not appreciated by customers and a charge should be made for all work done. However, innumerable failures of heating equipment sales organizations are traceable to a hard boiled attitude in servicing customers.



YOUR MARGIN $27.00
Installation Profit Extra

Buy from your jobber or use coupon to order direct

There is QUICK Turnover — BIG PROFIT, with COOK Heat Control

You can add substantially to this season's volume by selling Cook Heat Control, a simple method of securing comfortable, even temperatures from heating plants burning coal or coke.

« QUICKLY INSTALLED—NO SERVICE »

Cook Heat Control is easily and quickly installed, average time, one man 1½ hours, making an additional profit for the dealer. No gears, no batteries, motors or springs to require service. A liberal time payment plan speeds up sales with 90 per cent of sales price immediately advanced to dealer. Merchandising helps now ready to assist in every sale—folders, window displays, demonstrators.

Only 3 homes out of every 100 now have any form of automatic heat. The remaining 97% is your market.

COOK ELECTRIC CO., 2682 Southport Ave., Chicago

Cook Electric Co., 2682 Southport Ave., Chicago, Ill.
Please send me the details of your dealer proposition for Cook Heat Control.

Name.....
Street and Number.....
City and State.....
My jobber is: Name.....
City and State.....

The front of the Tompkins store —center for "gas service"

Gas

—How One Dealer Has Created a $150,000 Business Beyond the City Mains

W. M. TOMPKINS *gave up a lucrative contracting business to devote his time to popularizing gas in cylinders. He tells how it was done*

WE USE considerable newspaper advertising. We have compiled a mailing list of potential buyers, and cover it with a system of circular letters. These letters are mailed to potential buyers at the start of our season, and carry on through the fall. There are some 7,000 names on our list.

In addition to using this list we circularize every user, asking him for names of friends who might be interested. We also use direct mail to all builders of any homes, whose name we secure from Dodge Reports and Brown's Business Letters. We get a fair rate from this sort of advertising, which is about 3 per cent of replies based on the number of letters sent out.

We go through the local telephone directories. The entire list of non-gas-piped areas are circularized, feeling that any one who did not have a telephone was not up-to-date enough for gas and would not be a good prospect for our product.

As to circulation, extreme care should be used in the quality type, and style of printing. Cheap advertising matter intimates to the prospect a cheap business as a whole.

As to argument, we try to make people buy, and there is only one argument, our product is a natural

step in the progress of the cooking industry. The stability of our company, the kind of service we give and the stability to do things that the other fellow can't, are all reasons for buying from us.

Keeping Salesmen on Their Toes

As to salesmen, my men are carefully selected, both as to personal appearance, education and ability. A firm is judged rather severely, by the buyer, by the general set-up of its outside representation. Our salesmen work on a straight commission basis with a rather liberal drawing account.

This story should open the eyes of dealers who are in or near communities not yet served by gas mains, to an opportunity for profitable service. Gas in containers is available through a number of organizations; the sale of the gas and of the ranges in which to use it offer a specialty field of very wide proportions

They have three rates of commission:

First, on a direct sale of a prospect they have personally dug up.

Second, on a sale on an inquiry given them through this office.

Third, on a sale made through a dealer.

We train our men carefully, but demand their appearance in our office at specific times, at which time we go over with them every prospect they have, making suggestions which we believe will help them secure the business.

As to the main point of our sales, we believe that every family wishes to live on the best standard possible. They also wish to have their food prepared in the best possible manner, and gas being the recognized cooking fuel by all the leading authorities, we do not find it difficult to convince the buyer that the gas is the proper cooking medium for their kitchens.

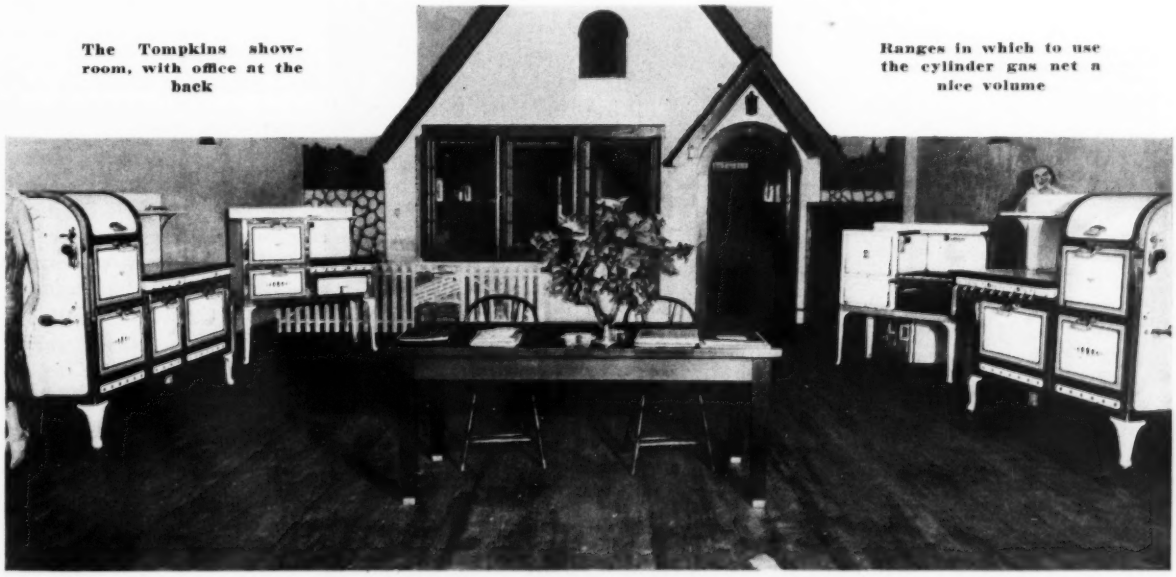
We also believe that every woman is interested in an attractive, cleanly, sanitary condition in her kitchen, and gas, is of course, the cleanest cooking fuel, and the new modern gas range is a thing of beauty.

We most certainly maintain an attractive showroom, and find that it is profitable. Again, the buyer judges the firm he is doing business with, by the class of showroom they maintain. Our display is constantly changed.

We price fixtures at the full list price and we believe it to be the proper practice. No one ever got any sales profit by cutting the prices. We sell any make of gas range, also any gas burning appliances.

Service That Satisfies

As to inspection, we inspect each and every piece of equipment we have ever sold once a year at no charge to the consumer. A report is then made to the consumer as to what is necessary to do, giving the price of the work to be done to put the entire equipment in working order.



The Tompkins showroom, with office at the back

Ranges in which to use the cylinder gas net a nice volume

This is the display room at the garage, some distance from the main store

There is only one way to hold customers and that is, in our opinion, to give them 100% service.

For the delivery of cylinder gas we maintain seven trucks.

To maintain service on the customers equipment, we have two service men, with two separate trucks. For our customers' convenience we maintain a total of five telephone numbers, two of them being all night emergency calls.

In this connection I might say that we maintain our own garage, to keep our own trucks in operation, having a day and night man to make all repairs for trucks. We have our own gas pumps and in this way our business operates twenty-four hours a day.

Where it is advisable we discount our bills; otherwise we buy on the manufacturers' terms of 30 or 60 days. All our bills to our customers are due and payable 10th Prox. In the event of a payment not coming in promptly, a letter is written on the 15th and 20th of the month. If by this time the money has not come in, we send them a telegram collect. After 60 days all our accounts go to our collection agency. We allow our customers a cash discount.

We sell a great deal of merchandise on time payments, for which we have set up a department, carrying our own time payment paper, and we find this very profitable. Certainly we look up a customer's credit rating.

We calculate overhead on our yearly sales. We also calculate profit the same way, which is the correct method of calculation. We maintain a complete system of double entry bookkeeping and our books are audited by a Certified Public Accountant every month.

The Inside Organization

We keep good workmen on our payroll, by paying them a higher rate of salary than they can obtain anywhere else. We have every conceivable kind of mechanical instrument for the use of the men.

The garage, from which a twenty-four-hour service radiates

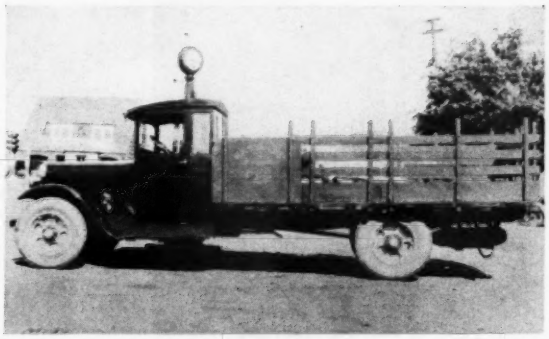
We occasionally pay our men bonuses for various things.

There are no secrets in our business, every one is taught to feel that they are a part of the business, and they really are. If the business does not succeed they are naturally out of the picture, and out of a job.

We give any one of our employees a commission on any prospect he turns in to our office. We do not allow any one to make a sale for the salesman.

We buy pencils with rubbers on, therefore, we are open at any time for new suggestions from our employees that will better our business.

Our gas business was established approximately eight years ago. Capital—none. We had a good



One of the six trucks that maintain service contact with customers

proposition, and we told our bank about it, and having been successful in other enterprises they were satisfied to back our judgment.

We own our own office and showroom, which cost us in the neighborhood of $20,000. Our annual volume of business is approximately $150,000, and the rate of growth is not hard to give, for eight years ago, all we had was an idea.

We are the members of no particular civic or trade organizations but we own stock in our bank. As to the idea why our business has been successful, there is only one answer and that is, carrying on business on a business-like basis, and keeping our records so that we know at all times exactly what we are doing.

Being Sure—and Going Ahead

We have eliminated all guessing competition, and before we make a move we are assured of the profit in the individual proposition we undertake.

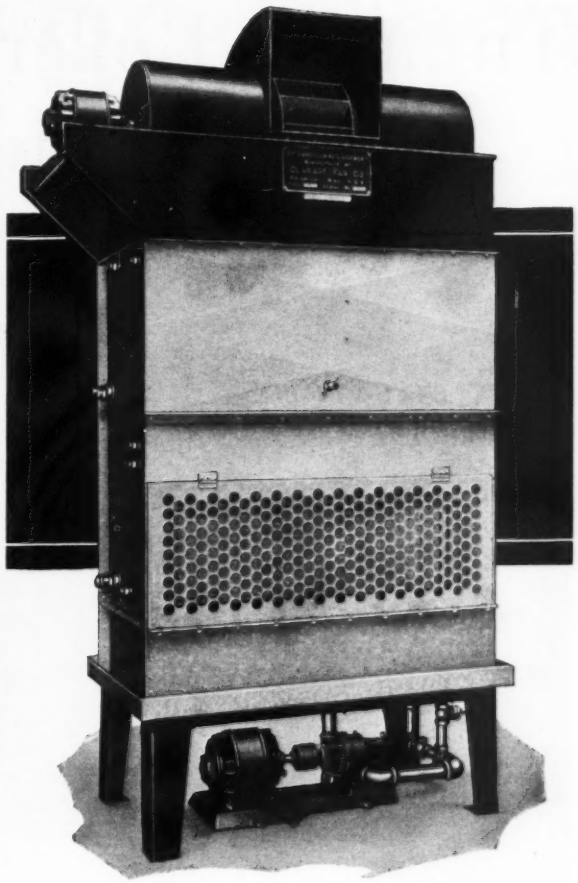
As to competition we do not exactly consider that there is any. No one has the class of merchandise to offer and no one has the set-up or organization to handle the business after they get it that we have.

We become egotistical in this respect after we called upon all of our competitors within a range of 500 miles, and after we called upon all of the dealers within the same territory.

It's a good idea to always know first what the other fellow is doing.

As to the opportunity for the sale of gas in containers, wherever people cook food and do not have city gas there is the opportunity for success in selling this gas service.

AUTOMATIC HEAT



The Modern Way

CLARAGE Unit Air Conditioners are the modern answer to practically any industrial or commercial air conditioning problem. They will cool, humidify or dehumidify as required.

As compared with older types of bulky, expensive apparatus, Clarage Air Conditioners offer greater flexibility, closer and easier control, eliminate a costly distribution system, and invariably produce equal or better results at a decided saving. No conditioning job is too large for a battery of them; no job too small for one of them.

There is money for you in air conditioning work, if you use this modern equipment. Very definitely will it pay you to write us for complete information. CLARAGE FAN COMPANY, Kalamazoo, Michigan. Sales Engineering Offices in Principal Cities.

CLARAGE

UNIT AIR CONDITIONERS

Timing a Boiler Installation as you would a Tee Shot

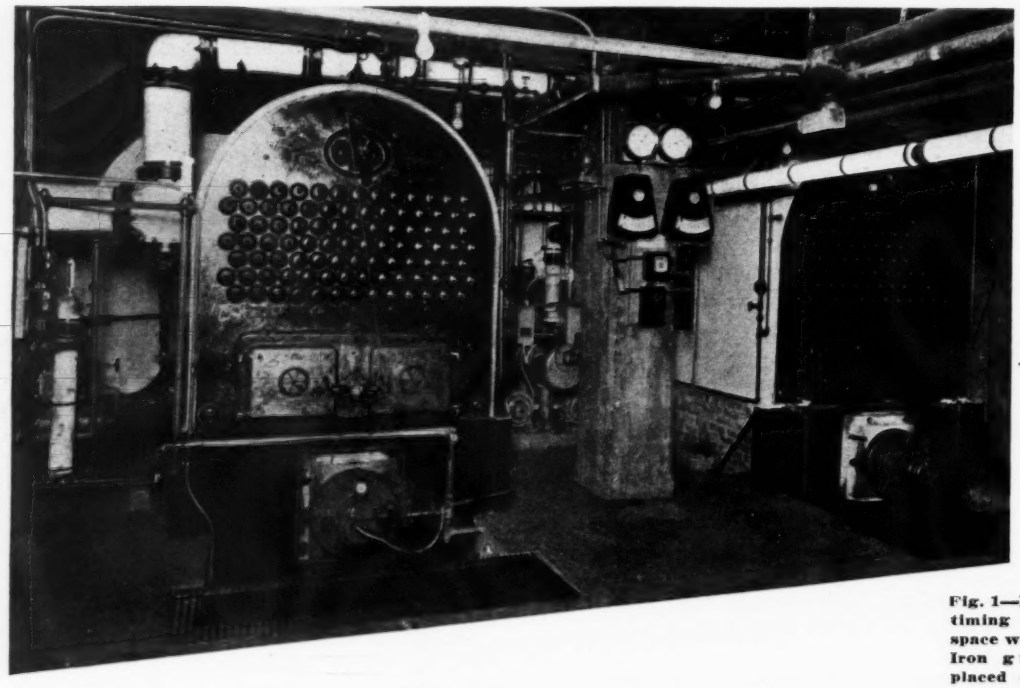


Fig. 1—Not only was the timing a problem but space was at a premium. Iron gratings were placed over the piping to salvage floor space

"The paper must be on the streets as per schedule and the broadcasting must be on the air on time whether the heating equipment goes in or not." This was the inflexible provision which governed in the installation of this heating plant and oil burner where business went on as usual during the alterations. Thus, the need for the precision timing of the work

By C. B. MAGRUDER

IN ACCEPTING the general contract for the installation of two low pressure water tube boilers, vacuum return pumps and receiver, necessary valves and piping connections between the boilers and the old piping system, the installation of two oil burners, and the erection of a steel smokestack at the Louisville Courier-Journal building, due consideration had to be given to the fact that this building housed the plant and offices of a busy newspaper and a radio broadcasting station.

No interruption to business really meant something here, and ingenuity was taxed to the utmost at times to maintain a schedule that would not conflict with that of the newspaper and the broadcasting, for the paper must be on the streets as per schedule, and the broadcasting must be on the air on time, whether the heating equipment went in or not. With a little give and take on both sides, however, and careful preparation and planning of the work ahead of time, the entire installation ran along smoothly.

The building was formerly heated by steam supplied by a high pressure boiler in a building some distance away. As the supply was inadequate and not always to be had when needed, it was decided to install boilers on the premises which could also furnish heat to the building next door, occupied by a storage company.

There was little floor space available for this installation and there was so much equipment to go into such a limited space that no inches could be wasted anywhere. Two horizontal low pressure water tube boilers with a capacity of 17,200 sq. ft. of direct radiation each were chosen as best suited for installation in the space available, and even so to accommodate them changes had

to be made in the overhead piping, the steam and water lines, the sewer connections, and the electric conduits. For the most part it was necessary to make such changes on Sunday mornings, for it was only at that time that the presses were idle, and the broadcasting station could get along conveniently without elevator service.

Each boiler was provided with standard equipment and an automatic regulator for the control of draft, and the regulation of the feed of the fuel oil. An excavation was made below the floor line to provide suitable concrete foundations and proper pits were constructed.

> If a job is well planned and well laid out, more than half the work is done before a single piece of pipe or equipment is connected and the success of the installation practically is assured. In making these change-overs, so little disturbance was caused that many working in the building were never aware that the work was going on

A blow-off tank was connected to each boiler, having an overflow pipe to the sewer, and a vent pipe from the tank to the roof which was provided with an exhaust head with drain to a downspout of the building. The overflow line from this tank had to be run underground to the sewer, and to reach the sewer it was necessary to cross an alleyway where trucks passed constantly to the loading platform. To tear up the alley would have caused delay and inconvenience, and so it was decided to attempt to drill through underneath the pavement. The plan seemed to be worth trying and proved successful, saving much expense and inconvenience, for a pipe with end sharpened, and larger than the pipe to be run, was driven through the obstruction, and the connection was then quickly made.

Vacuum pumping equipment was installed to take care of 25,000 sq. ft. of connected radiation.

The boilers were connected to the old steam main supply and return lines in the Courier-Journal building, and to the lines of the heating system occupied by the storage company. Where the two new boilers were tied into the main steam line of the old system, it was necessary to have an 8-in. tee, and there was only two hours' time allotted in which to install this fitting. The main was close to ceiling, other working conditions were difficult, and even with all possible speed and everything in readiness to make the change, it could not have been done within that time limit. Rather than install a tee, therefore, the connection was welded, and total time consumed for breaking in and making the connection

DO YOU KNOW ?

1/8 1/6 1/4 1/3 1/2 3/4 1 1½ 2 3

That a great majority of all Leland Motors are used on electrical appliance applications.

That many of them go onto the very best of appliances—oil burners, stokers, water systems, refrigerators, etc.

That the success of Leland motors is due, primarily to:

A sleeve bearing design, which utilizes the Leland continuous, filtering lubricating system and virtually eliminates bearing troubles.

A short-circuiting device of unquestioned durability. Test it against any design.

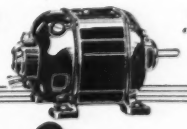
A servicing plan on both special and standard motors that has proved satisfactory to users in all parts of the country.

Investigate the Leland line of brush-lifting motors with ventilating safety grids for use on stokers and oil burners, refrigerators and water systems, where quiet operation and freedom from transmitted noises is of importance.

A. C. Repulsion-Induction
D. C. Compound Wound
A. C. Polyphase
Interchangeable frames

THE LELAND ELECTRIC CO.
DAYTON, OHIO . . U. S. A.

Canadian Address Toronto

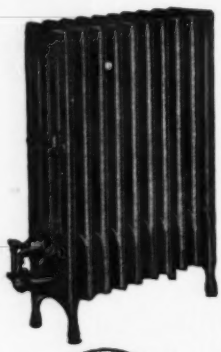


Cable Address "Lelect-Dayton

Leland Motors

AUTOMATIC HEAT

AUTOMATIC HEAT PROSPECTS ARE ALL AROUND YOU



Prospects and sales opportunities for AUTOMATIC GAS STEAM RADIATORS are all around you. Here is a radiator that is either part of the regular steam heating system or a separate, complete, heating unit that will supply just the amount of heat required during unseasonal weather. Simple and economical—easy to install and operate. Automatic Gas Steam Radiators are real business builders.

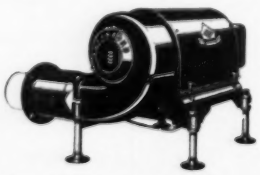
Write for complete catalog and any special information required.

AUTOMATIC GAS-STEAM RADIATORS

Automatic Gas-Steam Radiator Co.

BRUSHTON & THOMAS STREETS PITTSBURGH

Are You Selling *Trouble-Free Heating Service* or Just Oil Burners?



IT SOMETIMES happens that a dealer permits his better judgment to be sidetracked by the lure of greater profits. He takes on the so-and-so oil burner and earns the profits—only to see them dissipated by repeated service calls.

The Branford Automatic Oil Burner, made by The Malleable Iron Fittings Company of Branford, Connecticut (founded in 1864), offers and delivers even, dependable, *trouble-free* heating service month in and month out, year in and year out.

Holders of the BRANFORD franchise operate with complete confidence in their product, for they know that this Company stands squarely in back of every Branford Oil Burner sold, and back of the Company is a 67-year old reputation of fair dealing and dependable products.

We are interested in hearing from responsible dealers.

THE MALLEABLE IRON FITTINGS CO.

Dept. 40 :: Branford, Conn.

BRANFORD OIL BURNER

was only the almost unbelievable short space of time—one hour and a half.

The storage building had been heated by hot water and valves and motor traps were installed in order to substitute steam heat for the old system of hot water circulation. As pianos and perishable articles were stored there, heat could be down for only a minimum of time. To avoid delay in making the change, connections were made ready, and as soon as the old boiler was disconnected, three crews of men were at work on steam lines and changing valves and traps.

The boilers, the large breeching connecting the two boilers to the stack, and all of the new piping installed, were covered, canvased, and painted white.

A steel smokestack, 36 in. in diameter by 105 ft. in height, was erected above a smoke box under the surface of the alley level at the rear of the building.

Two oil burners, adapted to the boilers, were installed with proper auxiliary control and protective equipment, and all piping in the boiler room was so run as to prevent obstruction of the narrow passageways. In order to salvage all the floor space possible, iron gratings were placed over a part of this piping, so that it was still accessible, and yet would not prove a hazard to anyone passing in front of boilers. This is shown in Fig. 1.

> The installation of the oil tanks presented a problem. They were located under the pavement under the loading areaway. The work was accomplished by opening up the pavement for one tank at a time. Also, instead of trenching across a roadway for laying pipes, pipe casing was driven through at the correct level without any interruption of traffic

Two three thousand gallon oil storage tanks were located under the pavement in the loading areaway at the rear of the building. In order to conflict as little as possible with the speed of loading and the quick getaway of papers fresh off the press, one tank was installed at a time. An excavation was made and the first tank was installed in readiness for service before the excavation was begun for the second tank.

So little disturbance was caused in fulfilling the contract that many employes working right in the building were never aware that such changes were being made. They were never without heat, light, power, or other conveniences long enough to miss them. Those who did know never realized the constant supervision, the amount of labor and material, and the number of trades that contributed, before the boiler room appeared as it does in the photograph.

We're Glad to Have Your Inquiries

AUTOMATIC HEAT has received many letters from heating dealers all over the country asking for advice on the matter of which is the best type of automatic heat for them to sell in their communities.

We're glad to have such inquiries. We're glad to discuss this all-important problem with heating dealers everywhere. It's an important decision to make and one that the average dealer doesn't want to rush with.

However, it's one that he doesn't want to lag with either for the big swing to automatic heat is on. There'll be no "season" this year. Rather, the whole year will be a season for sales.

We'll be glad to give you the benefit of our study and experience of the automatic heat market. We'll be glad to answer your automatic heat questions and to help you in every way we can.

Meantime, of course, you have the pages of AUTOMATIC HEAT in every issue of DOMESTIC ENGINEERING to help you with sales, mechanical and financing problems.

Those of you who have already taken on an automatic heat agency will find all of this information of great value and those who are going to take one on shortly will need this help in preparing your organization.

DOMESTIC ENGINEERING has spared no effort to make AUTOMATIC HEAT of the utmost value. Only the foremost information appears in these pages for your consumption.

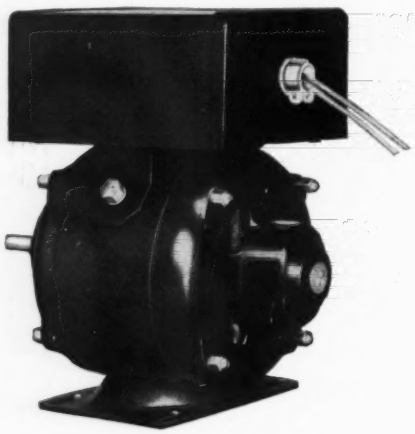
As one dealer said the other day, "AUTOMATIC HEAT gives you everything and gives it to you interestingly and practically. My entire organization absorbs every bit of it; sales people, office people and mechanics find it very helpful and so do I."

AUTOMATIC HEAT
in
Domestic Engineering

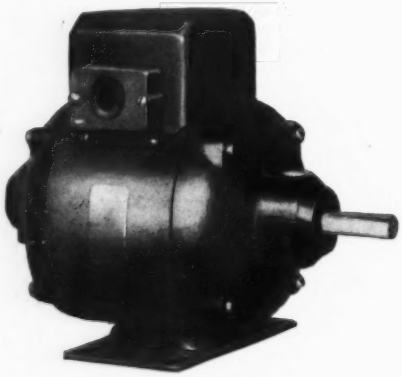
1900 Prairie Avenue ✦ Chicago, Ill.

AUTOMATIC HEAT

DEPENDABLE MOTORS
FOR ALL AUTOMATIC HEATING SYSTEMS



The Type KC single-phase motor with capacitor-transformer unit. Also available with separate capacitor unit



The Type KX reactor split-phase motor

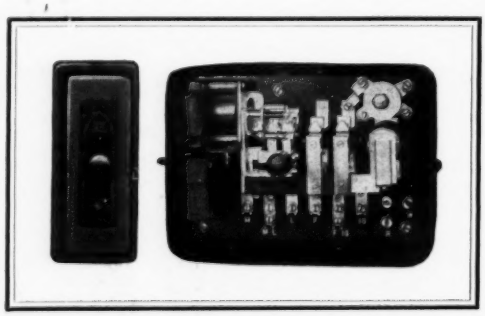
The Type KH resistance split-phase motor

GENERAL ELECTRIC offers a complete line of dependable fractional-horsepower motor drives to meet the performance characteristics of any type of automatic heating system whether it be oil, coal, or forced draft. And more, General Electric offers nation-wide service in keeping every drive "on its toes." Don't overlook these advantages when motorizing.

Back of every G-E fractional-horsepower motor are nearly thirty years of design, manufacture, and application experience. The results are reflected in fractional-horsepower motors that are simple in construction, quiet in operation, high in efficiency, dependable. Motors are available in capacitor, reactor split-phase, and resistance split-phase types.

Remember, that whether you use standard or highly special motors, General Electric application engineers will be glad to help you solve your drive problems, just as they have successfully solved those of others. Try G-E motor service to-day; there's a G-E office near you with complete information on G-E motors for your particular requirements.

In addition to a complete line of fractional-horsepower motors, and of transformers, cable, etc., to meet automatic heating requirements, General Electric manufactures control equipment for the modern oil burner. This new control utilizes a Telechron motor drive for timing regulation, hence there is no clock to wind or regulate. In the thermostat, a patented preheat coil prevents "overshooting" or "lagging" of the room temperature. Heat control of G-E manufacture is marketed by the Penn Heat Control Company.



210-145

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

Planning Is Big Problem of Business

Each Manufacturer and Dealer Must Forecast Sales and Expenses

By Dr. RAYMOND B. PINCHBECK*

ONE of the most far-reaching and significant conclusions drawn from the experiences of the present business depression is the discovery of absolute lack of national, regional or local planning in the American business and economic system.

America has grown up on an economic philosophy of individualism. There is no gainsaying the excellence of many phases of American individualism. However, unfettered competition and extreme individualism have no place in the gigantic, delicately disposed, mass production system of economy which prevails in the America of today. Some plan which will retain all of the best of the old system of unfettered competition, but which will also embody the finest elements of unselfish co-operation and collaboration, must be discovered. Unless business ethics and business leadership bring about this unselfish co-operation our American economic system may wreck itself on the rocks of often repeated but increasing terrible business depressions.

Business Must Plan

Such planning must naturally begin with the individual business. A well-planned and budgeted business should work by a very definite pattern. It should budget and attempt to forecast its (1) sales and other income, (2) selling expense, (3) purchases of raw materials and supplies, (4) the volume of production necessary to meet its sales demands, (5) its labor needs and budget, (6) manufacturing expense, (7) outlay necessary to renew, replace and maintain the plant of the business, (8) its departmental expenses, and lastly, (9) its cash income and expenditures to make possible the working of the above elements of the total financial budget.

It goes without saying that the planning of sales and income is the most difficult to forecast and realize. Market analysis, sales research and other studies must be used to determine the real market possibilities for the goods of the individual firm.

Yet there are definite limits to proportions and success of individual planning in our economic system where every business unit is a part of a still greater economic structure. Individual planning, in spite of its virtues, leaves the business subject to all the factors affecting the whole business structure of the nation. Business depression, itself the result of many factors but fundamentally caused by maladjustments between supply and demand, will affect the well-planned and unplanned business of the nation, though not to the same degree. Because of the interrelation of all business endeavors and for the good of the public as well as members of the same trades and industries several thousand trade promotion organizations and trade associations have been formed since the Civil War. Undoubtedly the more than 800 trade associations, as distinguished from chambers of commerce and similar organizations, will serve an increasingly important part in the planning of industry and trade in the future.

What Associations Can Do

Under our present anti-trust laws any activity of the trade association which results in "price-fixing" or "restraining of trade" is illegal, as is any conspiracy to do either of these. Collective selling, exclusion of certain businesses from the market, collective curtailment of production and collective price manipulation agreements are illegal. However, it is legal for trade associations to (1) operate organized exchanges for trading, (2) collect and disseminate statistics and other trade information as long as it does not lead to price fixing, (3) interchange patent rights under certain conditions, (4) interchange credit information, (5) engage in group purchasing, (6) bring about standardization of products and uniformity of practices, (7) develop higher business standards and codes of ethics, (8) carry on commercial and industrial research, (9) develop uniform financial and cost accounting systems, (10) carry on

* Address by Dr. Pinchbeck at recent annual convention of the Virginia Master Plumbers' Association.

collective advertising and publicity, (11) work out co-operative insurance arrangements, (12) collectively work out plans for better employe-employer relations, and collectively furnish representation for the industry or trade in legislative matters, as well as (13) to establish arbitration committees to adjudicate differences between members of the trade.

It is obvious that the services which may be legally performed by trade associations go far toward permitting the planning of industry and trade. Every member of every trade or industry should regard it a duty to those whom he serves to become a member of his trade association. It permits him to learn the best practices and methods of his industry or trade and to plan his own business with a national viewpoint. He must not regard this privilege as a purely selfish one. He should ever look to giving better, more rapid and cheaper services to the public, in addition to earning a fair profit for himself and fair wages for his employes.

Planning Solves Problems

All the above is not merely an academic dream. At the recent meetings of the United Chamber of Commerce and the International Chamber of Commerce national planning of industry, commerce, banking and finance, agriculture and the government itself, occupied first place in the minds of speakers of the occasions. Our banking system has rid us of the dangerous financial panics of the past. We must now turn to the problem of business depressions and remove them from economic system. Each line of industry, commerce and agriculture must regard itself as serving all or a certain part of the great family of 123,000,000 Americans. This great family has its demands for food, clothing, shelter, equipment and fixtures, transportation, group life and government, education and science, art and recreation.

New England Metal Products Golfers Play Waltham Course

A meeting of the New England Metal Products Golf Association was held at the Waltham Country Club, Waltham, Mass., on Thursday, August 27. The affair was well attended, but quite a number of jobbers and manufacturers were out of town on vacations. Joseph A. Maynard, president of the Waltham Country club, was host of the day.

Guests at the meeting were Charles Tucker and J. S. Cassedy, both of Boston, and Dwight Thompson, of Philadelphia.

The scores for the day were as follows:

	G.	H.	N.		G.	H.	N.
William Hayes ..	82	8	74	R. F. McKeown.	91	15	76
Wm. Bennett, Jr.	118	44	74	Geo. F. Elliott..	108	26	82
P. W. Donoghue.	88	14	74	H. S. Murdock...	105	25	80
E. B. Lane.....	86	7	79	R. Thompson....	122	30	92
F. W. Hubbard..	115	36	79	H. W. Thorndike.	106	24	82

William Hayes of the Manchester Supply Company, William Bennett, Jr., of the Ideal Supply Company of Somerville, and P. W. Donoghue, president of the National Association of Master Plumbers, tied for first prize, each shooting a net 74.

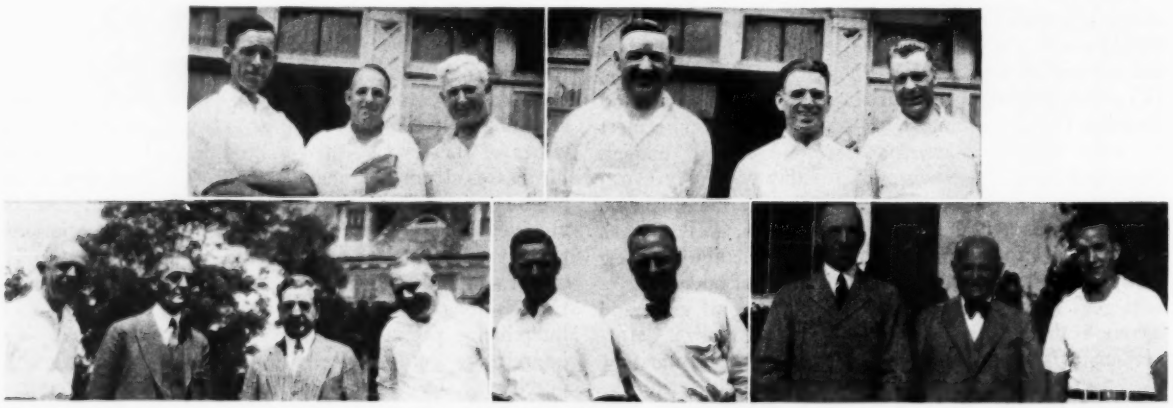
The next meeting of the Association will be held at the Metacomet Country club, at Providence, where Stephen E. Kindelan of the Providence Plumbing Supply Company will act as host.

◆

Rutgers University Offers Heating and Air Conditioning Course

Rutgers University, New Brunswick, N. J., has arranged a home-study course in heating, air conditioning and ventilating. The course will be given under the supervision of the members of the University faculty. The outline of the course follows:

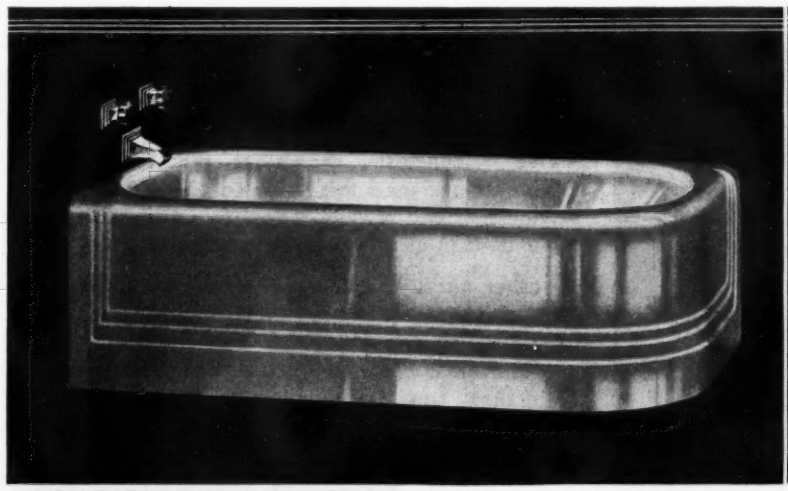
Heat, heat losses from buildings, different methods of heating, hot air furnace systems, the properties of steam, radiators, steam boilers, steam heating systems, pipe fittings, valves and accessories, steam piping, hot water systems, temperature control, air and its properties, ventilating fan systems for various types of boilers, design of fan system, air washing and air conditioning, central heating.



Top row, left to right: Morris Lynch, Frank Monroe, James Mullen, James Carr, John Bennett and Morgan Chamberlain. Bottom row: George Phillips, Herbert Nickerson, Stephen E. Kindelan, Howard Murdock, William Hayes, E. B. Lane, president, William Thayer, Walter Eddy and John G. Ross. Photos taken at recent tournament of the New England Metal Products Golf Association

THE NEO-CLASSIC ENSEMBLE

now brings harmony to the bathroom



• PEMBROKE NEO-CLASSIC BATH • TOWERLYN NEO-CLASSIC LAVATORY

• TERISTON NEO-CLASSIC CLOSET

• Isn't it the best of salesmanship on your part to suggest *ensemble* designs of bathroom fixtures? Here is the "Standard" definition of a beautifully simple bathroom ensemble...the Pembroke Neo-Classic Bath, the Towerlyn Neo-Classic Lavatory, the Teriston Neo-Classic Closet.

• For the Neo-Classic motif—created for "Standard" by a designer of international reputation—is faithfully and uniquely carried out in lavatory, bath and closet. Nowhere else can you find a bathroom ensemble at once so restrained in feeling and yet so strikingly individual. The simplicity of the Neo-Classic motif adapts it to every type of home, large and small — whether furnished in the strictly period, the classic or the modern manner. At the same time, this attractive design imparts unusual character to any bathroom for which it is chosen.

• Suggest to your customer that the Neo-Classic design be carried out in every bathroom fixture and in all the fittings!

Standard Sanitary Mfg. Co.

106 Sixth Street, Pittsburgh

DIVISION OF AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

"Standard" PLUMBING FIXTURES

Good Right to the Core

Trimmed to Suit ..... Every Taste and Purse

Your experienced eye will note the sturdy construction and sound design evident in the Hays Valve Mechanism shown at the left. Hays engineers designed this valve to give the kind of service that will always reflect to your credit. It is standard in all Hays Bathroom Fixtures.

Another unusual advantage of the Hays line of bath fixtures that makes them stand out is the easy interchangeability of trim designs. You can convert a customer's Hays Bath Fixture from Plain Brass Trim to Nuart or China trim in a few minutes.

Good valve design, precision machining, interchangeability of parts, chromium plated high renewable seats and a wide selection of beautiful modern trim designs make Hays Fixtures an outstanding value and a profit winner second to none. Write for Catalog Section 2 for complete description.

HAYS MANUFACTURING CO.
ERIE, PA.

Bathroom Fixtures.
Plumbing Brass Goods.
Hays Copper Plumbing.

HAYS

Brass *and* Iron Goods
for Water, Gas *and* Oil.
Tapping Machines.

THE TRADE
News of Plumbing and Heating Contractors

French Master Plumbers Reaffirm Contact with N. A. M. P.

William Wolff of Brooklyn, president of the New York State Association of Master Plumbers, has just received a letter from the president of the Association of Master Plumbers and Roofers of Paris, France, expressing the thanks of the Paris masters for the courtesies extended them upon their recent visit to New York City. It will be recalled that representatives of the Paris association visited the United States this Spring for the purpose of inspecting plumbing installations in the larger cities in this country.

In reaffirming the resolution adopted at the last convention of the National Association of Master Plumbers, where it was voted that the two associations correspond with each other, the letter said in part: "I am very pleased with the decision which strengthens the bonds of friendship which sprang up in the course of the visit of my colleagues and which will put us on the same plan of procedure and also with the exchange of ideas, which can only be for the advancement of our profession."

New Orleans "Show" Results in Sale of 692 Water Heaters

Credited with the sale of 692 water heaters, the first annual Hot Water Service Show, held recently in New Orleans, La., over a period of six days, was a complete success, not alone from the standpoint of actual sales but also from its achievement in making the city "hot water conscious." The show was sponsored by the water heater dealers, the master plumbers and the New Orleans Public Service, Inc., and, in the opinion of those who participated, it was the most remarkable co-operative effort in plumbing and heating circles ever experienced in the city. It is estimated that 25,000 persons visited the display.

These three agencies were able to enlist the cordial assistance of other groups in impressing upon the visitors to the display the advantages of hot water in the home. Talks were given twice each day in the auditorium of the company's building by representatives of the state university, the nurses' association, the board of health and a home economist. Representatives of manufacturers

A general view of the display of hot water heaters in the showroom of the New Orleans Public Service, Inc., where the first annual Hot Water Service Show was held, in that city. In the center can be seen the replica of the famous "Old Faithful Geyser" of Yellowstone Park

whose products were displayed also participated in these lectures.

The master plumbers were represented by a committee composed of A. H. Kussmann, chairman, L. C. deLeon, P. M. Kenney, E. M. Babst and Marcus Korn. The water heater dealers who co-operated in the show were: Crane-Premier Co., J. D. Torreyson; Hoffman Heater Co., John Mahner; Humphrey-Ruud Water Heater Co., H. D. Miller; Southern Heater Co., E. D. Pearson; Pittsburg Water Heater Co., P. J. Murphy; Standard Sanitary Mfg. Co., H. J. Fremaux; and the Gas Appliance Co., W. E. Baker. This group worked in co-operation with the commercial department of the utilities company, headed by W. E. Clement, with E. N. Avegno in active charge.

The show was held in the display room of the utilities company, where a replica of the famous "Old Faithful Geyser" of Yellowstone Park was constructed in the center of the main room. The geyser served as the main theme in the advertising of the show. For several days before the opening, advertising displays with the geyser pictured, appeared in the local newspapers, announcing a coming event, and arousing curiosity. Finally announcements were made in full page displays, street car cards, folders and bill inserts. All of these featured the geyser and emphasized the benefits of water heaters in the home.

The actual display in the utilities company sales room was attractive and effective in arousing public interest. In each of the spaces occupied by the various heater exhibitors were installations of modern kitchen sinks, or bath tubs to receive the running hot water. This served to visualize the conveniences and advantages of running hot water in the home. One of the features of the show was a two-act play, entitled "Getting Hot" which was presented each night. It brought out the inconvenience and annoyance caused by lack of hot water in the home, and the change effected by the installation of a hot water heater. The accompanying photograph shows a general view of the display.

President Names N. A. M. P. Directors

P. W. DONOGHUE of Boston, Mass., president of the National Association of Master Plumbers, has just announced the names of those who will serve on the board of directors of the National association for the 1931-32 term. The men selected by President Donoghue have all been active in local, state and national association work for many years, and have proved themselves to be students of association affairs. The various geographical sections of the country are well represented in the National association by the directors that have been selected.

The officers of the National Association of Master Plumbers, beside President Donoghue, are: Edward B. Kleine of Cincinnati, Ohio, vice president; H. O. Green of Tulsa, Okla., treasurer, and J. Preston Perham, Boston, Mass., secretary.

Following are the newly appointed National directors, with the districts they will represent: George H. Drake of Buffalo, N. Y. (New York State); Robert J. Barrett of Washington, D. C. (District of Columbia, Maryland, Virginia and West Virginia); Wilbur R. Dosher of Wilmington, N. C. (North and South Carolina, Georgia, Florida and Alabama); Maney J. Feeney of Philadelphia, Pa. (Pennsylvania and Delaware); George F. Reeke of Green Bay, Wis. (Wisconsin, Minnesota, North Dakota and Iowa); Harry L. Stevens of Hutchinson, Kans. (Kansas, Wyoming, Nebraska and South Dakota); Charles M. Swinnerton of Los Angeles, Calif. (California, Arizona, Utah and Nevada); R. G. Thomas of San Antonio, Tex. (Texas, New Mexico, Louisiana and Mississippi); Roy E. Thompson of Tacoma, Wash. (Washington, Oregon, Montana and Idaho); Rupert J. Weber of Chicago, Ill. (Illinois, Missouri and Indiana); George H. Werner of Orange, N. J. (New Jersey and Connecticut).

President Donoghue will take care of the Massachusetts district. Mr. Kleine has been given the states of Ohio, Michigan and Kentucky. Mr. Perham will represent the National association in Maine, New Hampshire, Vermont and Rhode Island. Mr. Green has Oklahoma, Arkansas, Tennessee and Colorado under his direction.

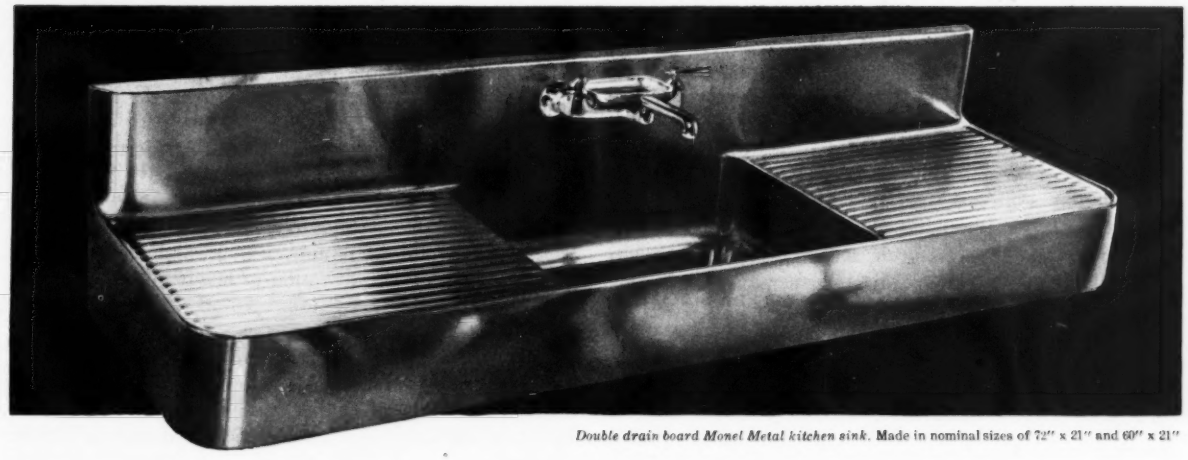
Mr. Drake has been active in association work in Buffalo and New York state for many years. He is a former chairman of the National standardization committee and was in charge of arrangements for the National convention in Buffalo in 1929. He was elected National vice president at that convention, and the following year, at Boston, was elected National president.

Mr. Dosher was National secretary under President Henry E. Longley, in 1925-26. He has served previously as a National director and at present is a member of the North Carolina state legislature. Mr. Barrett also is experienced as a National director, having served in that capacity last year under President Drake.

Mr. Feeney, who is at the present time president of the Philadelphia Master Plumbers' Association, served under the late President John A. Quinn as National secretary. He continued in this capacity for Mr. Drake when he took over the office of acting president after Mr. Quinn's death. Mr. Feeney is a previous director and served recently as a member of the N. A. M. P. committee which met with the American Gas Association to help work out the new policies just recently adopted by the latter organization.

Mr. Reeke has served previously as a National director, and also represented the National Association of Master Plumbers in directing the affairs of the Plumbing and Heating Industries Bureau. He is a past president of the Wisconsin Master Plumbers' Association. Mr. Stevens has been active in association work in Kansas for several years. He is a former president of the Kansas Master Plumbers' Association.

Mr. Swinnerton has been very active for a good number of years in association work. He is a past president of the California Merchant Plumbers' Association, and has been a National director for several years past. Mr. Thomas also has been exceedingly active in organization

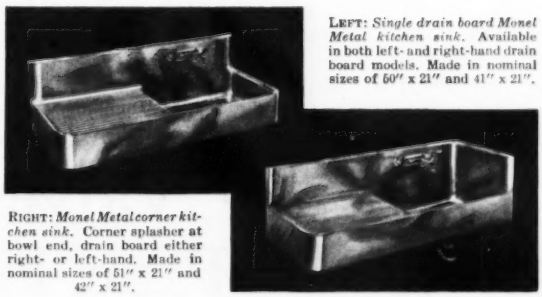


Double drain board Monel Metal kitchen sink. Made in nominal sizes of 72" x 21" and 60" x 21"

Business is better for Plumbers who sell

MONEL METAL SINKS

WITHIN the few short months since they were first introduced to the public, the new standardized Monel Metal kitchen sinks have attracted a host of enthusiastic admirers. Women everywhere are talking about them . . . admiring their silvery, harmonizing beauty . . . praising their many obvious advantages over old fashioned sinks.



LEFT: *Single drain board Monel Metal kitchen sink.* Available in both left- and right-hand drain board models. Made in nominal sizes of 50" x 21" and 41" x 21".

RIGHT: *Monel Metal corner kitchen sink.* Corner splasher at bowl end, drain board either right- or left-hand. Made in nominal sizes of 51" x 21" and 42" x 21".

Naturally, this widespread acceptance and approval of Monel Metal sinks is reflected in profitable business for plumbers who sell them. Progressive plumbing jobbers and merchant plumbers are making real money pushing these modern sinks.

Why aren't you sharing this profitable business in Monel Metal sinks? You are getting the same national advertising support on Monel Metal sinks as any other plumber. You can have the same eye-catching displays and business building sales helps other plumbers use. With the fall buying season and improved business conditions just around the corner, it will pay you to put your window to work. Send for a Monel Metal sink display that will stop every woman who passes your store. Write for more information today.

Monel Metal Sinks Offer these Eight Points of Superiority

1 Rich, lustrous beauty . . . with a satiny, glass-smooth surface that is easy to clean and keep clean.

2 Neutral, silver tone that blends with any kitchen color scheme and eliminates troublesome color problems in stocking sinks.

3 Rust-proof . . . highly resistant to corrosion . . . strong as steel.

4 Solid metal clear through, with no coating to chip, crack or wear off. Less danger of damage during installation.

5 10 standardized models and 6 sizes. One-piece construction of heavy gauge Monel Metal. No joints or seams. Reinforced and sound-deadened.

6 31% more working space than an ordinary sink of same nominal size.

7 Less weight saves labor and expense . . . installing, stocking and handling.

8 Standardized construction and quantity production methods bring prices within reach of the average purse.

INCO MONEL METAL

Monel Metal is a registered trade mark applied to a technically controlled nickel-copper alloy of high nickel content. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

A HIGH NICKEL ALLOY

MONEL METAL

NICKEL ALLOYS LOOK BETTER LONGER

THE INTERNATIONAL NICKEL COMPANY, INC. U. S.
67 Wall Street, New York, N. Y.

Gentlemen: I am interested in Monel Metal sinks. Please send me complete information on these sinks and samples of the selling helps for Plumbers.

My jobber is.....

Address.....

My name is.....

Address.....

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL ST., NEW YORK, N. Y.

and association work, not alone in Texas but in surrounding territory as well. He is a past president of the Associated Master Plumbers of Texas and has served the National Association as a director for the past several years.

Mr. Thompson also has been a national director for a number of years. He is a past president of the Washington state association. Mr. Weber is a past president of the Plumbing Contractors' Association of Chicago, where he has been active for a number of years in association work. Mr. Werner also has served as a national director for several years.

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Cleveland H. & P. C. Open Sales School

The Heating and Piping Contractors' Cleveland Association opened its 1931 Sales School with a supper meeting at the Hotel Allerton on Tuesday, September 1, with more than fifty in attendance.

The speaker of the evening was Russell G. Creviston, formerly manager of the Plumbing and Heating Industries Bureau and now sales promotion manager of Crane Co., Chicago.

Mr. Creviston presented a careful analysis of conditions in the building industry and pointed out that an immediate expansion of new building activity was impossible because of frozen credits in real estate. In outlining the market possibilities, Mr. Creviston stated that the past expansion in new construction has pushed such work approximately one year ahead of normal requirements and the slack must be taken up before banks can liquidate their present frozen assets and new building construction reach normal once more.

He called attention to the normal market through obsolescence, fire and storm damage and the natural increase in population. Beyond this the only other possible market is through the sale of modernization of existing buildings, he said.

"Selling heating or plumbing modernization is not as simple or easy as selling completed products such as automobiles, radios, vacuum cleaners and other specialties because of the fabrication of many products which enters into the completed job. No one should undertake modernization work unless he is willing to look at the unit as a whole," Mr. Creviston remarked. "Anyone determined to do this work should make a careful study of his own ability, the capacity of his firm, the products which he intends to sell and his potential market before starting."

He further urged that the contractors look to the sale of the many specialties which are part of the heating industry as a source of income during this lack of new work.

Association Manager B. Y. Kinzey reports that the Sales School will continue for ten weeks. The early start was made this year that the school might start with the Boiler and Radiator Sales Campaign being sponsored during September and October by the Heating and Piping Contractors National Association. The "20 Prospects Campaign" during March and April was won by Cleveland, which also finished second in the "Inspection Campaign" during May and June.

Kennedy Valves and Pipe Fittings

The Kennedy Line Includes

VALVES

Iron-body and Bronze Gate, Globe, Angle and Check Valves in a wide range of Sizes and Pressures.

PIPE FITTINGS

Black and Galvanized Malleable Iron; Brass or Bronze. Also Cast Iron Flanged Fittings and Flanges.

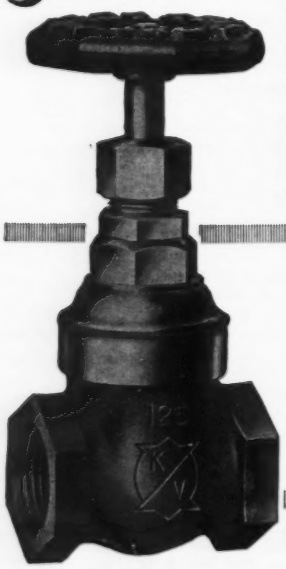
FIRE HYDRANTS

PROTECT yourself from annoying and profitless trouble jobs by using Kennedy Valves and Pipe Fittings. They cost no more than ordinary kinds, they look well, last well and will help you to build up a reputation for high grade, dependable work.

The many special features of the large Kennedy line that assure speedy and permanently tight pipe fitting jobs, are described in the Kennedy catalogue. Write today for your copy to help you make a selection for your next installation.

The Kennedy Valve Mfg. Co., Elmira, N. Y.

Branches in Principal Cities



Kennedy Standard Bronze Gate Valve

Iron Body Gate Valve

Standard Bronze Globe Valve

Radiator Valve

Malleable Iron Elbow

Directors of Ohio State Association Meet in Cincinnati

The board of directors of the Ohio State Association of Master Plumbers, at the call of President Edward B. Kleine, met at the Netherland Plaza hotel, in Cincinnati, on Sunday morning, August 30. All of the directors were present.

E. B. Kleine

President Kleine submitted an interesting report of his activities since the last meeting of the board, and the several recommendations that he offered pertaining to the affairs of the state body were approved by the directors. John J. Vogelpohl, chairman of the state code committee, reported on the work done by his committee.

Edward Frank, general chairman of the association's convention committee, told something of the arrangements that are being made for the next state convention, which is to be held in Cincinnati, in February, 1932. N. S. Finney, of the Plumbing and Heating Industries Bureau, Chicago, was present to describe the work being done by the organization he represents.

The meeting adjourned at 1:30 p. m., when an elaborate dinner was served in the main dining room of the hotel. The following were present at dinner: Mr. and Mrs. Kleine; Mr. and Mrs. Vogelpohl; John Doherty, Sr., president of the Cincinnati association; Mr. and Mrs. William Schneider, of Columbus; Mr. and Mrs. Edward Maurer, and son, of Columbus; Mr. and Mrs. William Grabowsky, Canton; Oliver Hoffman of Akron; Mr. and Mrs. Stewart Baker and Mr. and Mrs. Howard Baker, all of Toledo; Mr. and Mrs. Eb Ellen of Cleveland, state secretary-treasurer; Dean C. B. Connelly, Carnegie Institute of Technology, Pittsburgh, Pa.; Mr. and Mrs. N. S. Finney; Mr. and Mrs. Edward Frank.

Following dinner the party made an inspection trip through the hotel. An automobile trip to the chief points of interest in Cincinnati, ended at the home of Mr. and Mrs. Vogelpohl, where an enjoyable evening was spent.

◆

N. A. M. P. Scholar Wins Honors

A letter from John J. Vogelpohl, chairman of the scholarship committee of the National Association of Master Plumbers, carries the following information about the honors just won by the son of a plumbing contractor:

"John D. MacKenzie of Oak Park, Ill., one of the boys holding a National Association of Master Plumbers' scholarship at the Carnegie Institute of Technology, has been highly honored by the trustees of the Institute.

"Each year the leading students in each college are awarded a Founder's Scholarship in recognition of their excellent scholastic ability. I have been notified that the trustees have awarded the scholarship for this year in the College of Industries to John D. MacKenzie.

"The scholarship which Mr. MacKenzie holds from the National Association is more desirable in a financial way than the Founder's Scholarship. When such is the case, the Founder's Scholarship carries with it no monetary reward. Nevertheless, it is an honor to be proud of and is a tribute to Mr. MacKenzie's record at Carnegie.

"The Scholarship Committee of the National Association has extended to Mr. MacKenzie its heartiest congratulations and has assured him of its continued good wishes."

◆

Maryland State Association Holds Enjoyable Outing

The Association of Master Plumbers of the State of Maryland, Inc., held its annual outing at Heintzman's Cottage Grove Beach, Md., on August 20.

This delightful park was the scene of a most enjoyable day for the master plumbers, their families and friends, including guests from Washington, D. C., Wilmington, Del., and Philadelphia.

More than three hundred people partook of the many good things to eat, and the various games and contests kept them entertained throughout the day. Steamed crabs and hot dogs were served in the morning, and a delicious chicken dinner in the afternoon showed how well planned the program was carried out. Boating, bathing and dancing was accessible during the day.

The committee, whose chairman was Charles Wachsmuth, were F. C. Dorsey, Gus Wirth, H. Treff, William F. Mylander and Sam. Houck.

◆

Virginia Contractor Seeks Public Office

William E. Wolff, plumbing and heating contractor of Clarendon, Va., has filed notice of his intention to become a candidate for one of the seats on the new Arlington County board of supervisors, which will replace the present board, with three members, on January 1. Mr. Wolff states his friends induced him to become a candidate because of his experience in promotion of sanitation, sewer installation and water distribution. The nature of his business affords him practical knowledge of this work. The suggestion that plumbing and heating dealers take a more active interest in civic affairs has been made for many years. Mr. Wolff was an active worker in bringing about recently a change in the form of local government.

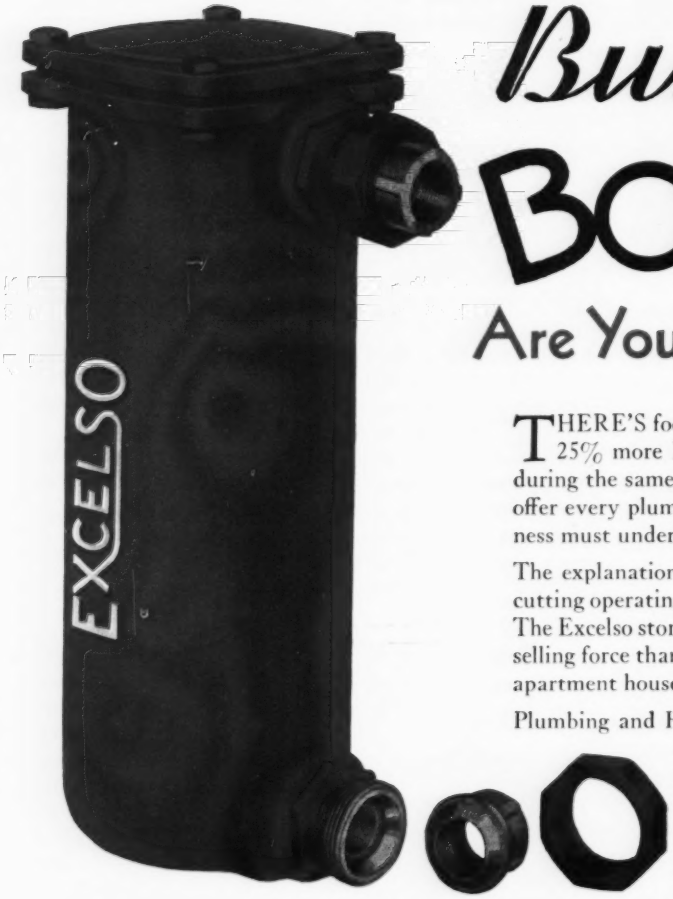
William E. Wolff

◆

Death of M. E. Gallagher

M. E. Gallagher, chief plumbing inspector for the city of Cleveland, Ohio, died on August 17, after an illness of nearly a year's duration. He had been connected with the city plumbing department for about thirty years, and was chief inspector for the past twelve years.

EXCELSO



Business is BOOMING

Are You Getting Your Share?

THERE'S food for thought in the fact that there have been over 25% more Excelso Water Heaters sold to date this year than during the same period in 1930. Some reason which should logically offer every plumbing and heating contractor his share of good business must underlie such an increase.

The explanation is obvious. Today, economy and various ways of cutting operating costs will make more sales than any other features. The Excelso story of hot water at practically no cost is a more potent selling force than ever before with every home owner, every owner of apartment houses, hotels, office buildings, stores and factories.

Plumbing and Heating Contractors from coast to coast have been successfully capitalizing on this situation by selling Excelso Indirect Water Heaters wherever they come in contact with steam or vapor heating plants, whether in new buildings or *old*.

Excelso offers the most productive appeal possible for these times . . . the selling is easy . . . the profit on Excelso installations is good. If you are not getting your share of this booming business now, write today for the Excelso profits story.

Excelso Indirect Water Heaters are made in four types and nineteen sizes with capacities varying from 30 to 2500 gallons. All have removable copper coils and the exclusive Excelso patented ground joint brass connections which eliminate the use of gaskets and do away with the chief cause of leakage. Excelso Heaters will operate year in and year out at practically no cost and without repairs, care or attention.

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EXCELSO INDIRECT WATER HEATERS

SIZES TO HEAT WATER FOR ONE FAMILY OR ONE HUNDRED

Allentown Masters Hold Stag Picnic

The Master Plumbers' Association of Allentown, Pa., held its annual grand stag picnic on August 19 at the Sons of Veterans Summer Home, Lehigh mountain. In the neighborhood of 100 master plumbers from Allentown, Bethlehem and Easton were present, with their friends. An appetizing array of food made the "bake" which was served at five o'clock very enjoyable.

Among those who won prizes at the various games which were on the program were the following: Robert Kleckner, Melvin Warren, Harry Saeger, Leon Wehr, E. D. Swoyer, Charles Weaver, John Feifel and C. H. Kramer. The committee in charge of arrangements for the outing consisted of Harry Saeger, Joseph Siegir and Charles H. Kramer.

◆

Asbury Park Association Holds Outing

Sixty-five members and guests of the Asbury Park (N. J.) Master Plumbers' Association left Asbury Park early August 28 to attend their annual outing, held this year at Water Witch, N. J. Clear, balmy weather favored the enthusiastic crowd; consequently the day was voted a success by all who attended.

The baseball game was the feature of the day. Teams composed of the ball fans present contended hotly for victory. A complete variety of other sports and games were enjoyed, due to the splendid arrangement of the committee.

◆

North Side Club of Milwaukee Holds Stag Party

The North Side Pleasure Club, north-side branch of the Milwaukee Master Plumbers' Association, held a stag party at the summer cottage of George Vogel, at Little Cedar lake, on Thursday, August 13. The lake is located about thirty miles north of Milwaukee.

The noonday luncheon, of which the piece de resistance was juicy baked ham, was served under the shady willows, and the afternoon was spent in motor boating, swimming and playing horseshoe. A buffet luncheon was held in the evening, and special songs rendered by John Bechtel, Charles Voeltz and Otto Laetsch climaxed the day's pleasant activities.

Those attending the party included Hugo Berndt, Antony Backus, Edward Borth, John Bechtel, William Bartel, Walter Dusold, William Gest, John Grimm, Albert Haack, Otto Laetch, John Lubenow, William Schoenrock, George Vogel, Charles Voeltz, August Weirauch, John Savadil, Clarence Savadil, and Peter King.

◆

East Bay Plumbers Put On Annual "High Jinx"

This year's joint frolic and picnic of the East Bay associations, composed of master plumbers and their families, brought a larger attendance than ever from Oakland, Berkeley, Richmond and the Contra Costa organization, when upward of one hundred flocked to the picnic grounds near Niles, Calif., on the afternoon and evening of August 29th.

Baseball, swimming, dancing and a picnic supper were the main attractions. It was all "big time stuff," each event being planned and timed so that frolic and fun took up every available moment. Among the outstanding accomplishments was the high diving of State Secretary John M. LaDieu. N. J. Previatti of Oakland acted as general chairman, assisted by W. F. Mauzy of Walnut Creek. J. H. Jevons of Berkeley handled the sports events, while W. D. J. Evans of Oakland was careful to see that all guests were taken care of.

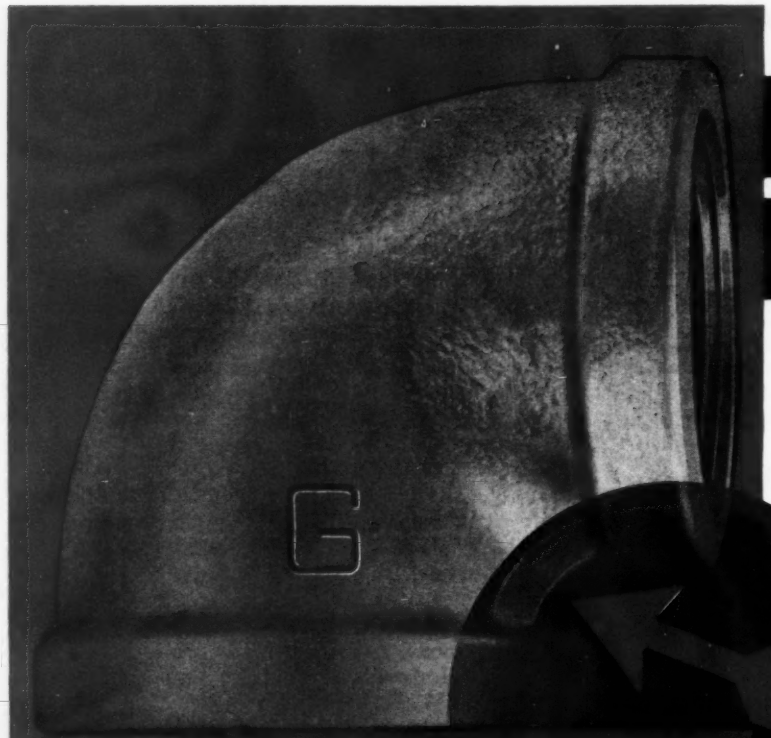
◆

Boston H. & P. C. Hold Summer Frolic

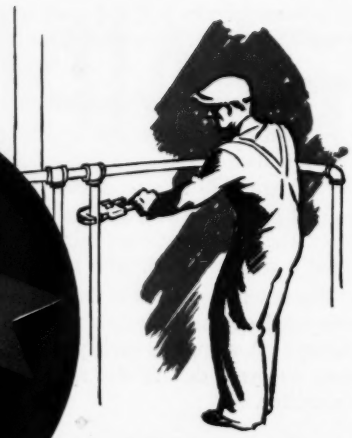
The Heating and Piping Contractors' Boston Association held its annual summer frolic at the United Shoe Machinery Golf Club, on August 25. Nearly 200 persons were in attendance. The committee in charge of the affair had made splendid arrangements for the entertainment of the picnickers.

The committee was headed by Maurice E. Chase, chairman, assisted by W. H. Oleson, manager of the Boston association, F. E. Dussoitt, Frank Merrill, James Sullivan, Robert Robertson, Fred and James Williams, for the contractors; and Coll Flint, John G. Ross, Fred Scott, Larry Tierney for the manu-

Top row, left to right: Abe Chelis, Atlantic Pipe & Supply Co., Inc.; Maurice E. Chase; W. H. Oleson, manager, Boston Association; H. E. Whitten; B. Williams, of H. B. Smith Co.; Robert Robertson, of Beverly; Allen Blackhall, of H. B. Smith Co.; John Cabeen, of Salem. Bottom row: Thomas Foley; Edward Sheehan; Sam Walk, Star Welding Co.; James Williams; Charles Sheehy, Atlantic Pipe & Supply Co., Inc.; Kenneth Morrison, sales manager, and Frank Morrison, secretary and vice president, both of Mason Regulator Co., Milton. Photos taken at the annual summer outing of the Heating and Piping Contractors Boston Association



STURDY STRENGTH



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The SQUARE "GEE" Line

STANDARD AND EXTRA HEAVY MALLEABLE FITTINGS . . . STANDARD AND GROUND JOINT UNIONS . . . RAIL FITTINGS . . . STANDARD CAST IRON STEAM FITTINGS . . . STANDARD AND PATENTED CAST IRON DRAINAGE FITTINGS . . . STANDARD AND EXTRA HEAVY BRASS FITTINGS . . . BRASS UNIONS . . STEEL AND BRASS NIPPLES . . HANGERS . . FLOOR AND CEILING PLATES

YOUR FITTING PROBLEM IS SOLVED WHEN YOU SAY SQUARE "GEES"

SQUARE Pipe

"GEE" Fittings

MALLEABLE, CAST IRON

DRAINAGE, BRASS

facturers; and Charles Sheehy, for the wholesalers.

At 6:30 p. m. a delicious steak dinner was served. Chairman Chase introduced as guests of the evening, Charles W. Sisson, an honorary member of the association, and E. G. Byrd, field representative of the National association. A communication was read by Mr. Chase from Frank Harvard, of Boston, regretting his inability to attend. Mr. Chase then called on Larry Tierney to distribute the prizes. Before doing so, tribute was paid the late A. A. Gathaman, who had performed this service for many years until his death.

Among the prize winners in the athletic contests were: G. B. Gerrish, James Driscoll, Joseph Harrington, Frank Merrill, William Roach, M. Lemermann, Philip Sullivan, Wm. Toley, Thomas Gallagher and Charles Sheehy. The tug-of-war was won by Wm. Shea, N. P. Bates, C. M. Gerrish, W. Thomas and W. Fitzsimmons.

The feature of the day was the ball game between the wholesalers, captained by Charles Sheehy and the heating contractors' team captained by Al. Thorley. Mr. Sheehy's team was victorious, 24 to 17.

Low gross in the golf tournament went to W. S. Anderson, Jr. The prize for the longest drive went to R. B. Crocker and A. T. Papineau, 247 and 238 yds., respectively.

The following also received golf prizes: Ralph Franklin, H. E. Whitten, Arthur Klanower, Thomas Ridder, Maurice Chase, Thomas Swan, Wm. Parsons, Fred. Scott, William Florence, Allen Blackhall, Arthur Ballard, Amos Bartlett, John Milligan, A. L. Sargent, John Hines, Ted. Romer, Fred. Ferris, G. E. Ross, Thomas O'Callaghan, W. H. Oleson, H. B. Buse, Tony Webber, D. Davids, W. W. Murphy, Frank Johnson, Ed. Burns, Joseph Dwyer, George Anastasia, M. Flaherty, J. Praught, H. Cook, Ed. Tierney, Ed. Dussoitt, James Sullivan, Joseph Hayes, Fuller Scofield, R. B. Williams, Ed. Clarke, James Williams, Charles Christy, Robert Robertson, Gus. Lofferg, J. Fitzsimmons, David Moulton, J. D. Elliott, W. Roper, William Borden, John Sullivan, Harry Dodge, W. A. Hamilton, Thomas Dowd, Ed. Sheehan, Ed. Vaughn, Fred. Williams, James Kelley, Sol. Appell, Harold Coombs, R. Smith, R. H. Pearson, Henry Lynch, Ted. Keefe, H. E. Babcock, Ed. Whittemore, Joseph Hern, James McNulty and Lou. Brightman.

◆

Milwaukee Group Holds Picnic at Pewaukee Lake

The Washington Park Pleasure Club, west side branch organization of the Milwaukee Master Plumbers' Association, held its annual basket picnic at Oakton Park, Pewaukee lake, Wis., on Thursday, August 27.

A. F. Boettcher was chairman of the committee in charge of arrangements for the affair. Entertainment during the afternoon consisted of the usual picnic activities, including games, horseshoe pitching, baseball and specially planned activities for the children.

Keeping abreast in building codes... Ahead in convenience and beauty

This Crane *Corwith* Lavatory is a fixture built to embody the latest codes established by health departments; it is equipped with octagonal chromium plated *Securo* compression supply and quick draining waste fixture. But it has other refinements which recommend it to the homebuilder as well as the sanitary engineer. A tapered recess provides space for installing fittings at angles where they will be out of the way yet more convenient to the hand. A four-inch box back provides a convenient, dry resting place for ladies' packs, toilet articles, etc. Finally, in the interests of economy, all operating parts are renewable from the top of the lavatory.

The newest Crane lavatory, the Corwith
C177—N9 with design 40 fittings

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LOOK CLOSELY!

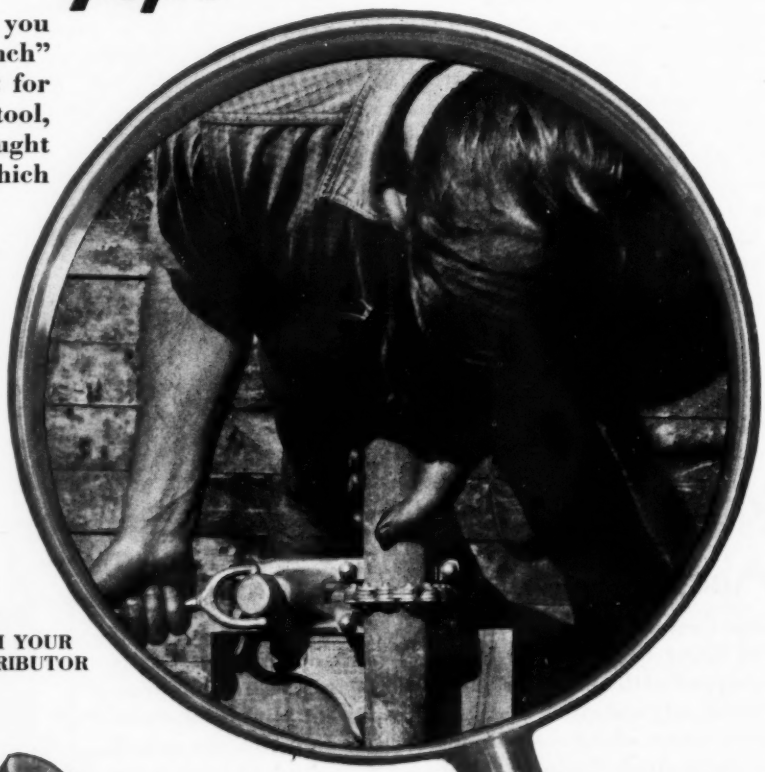
"This man has discovered a better means for holding pipe"

Here's a common sense pipe vise design — so simple and natural in its action that users wonder why someone never designed vises this way before.

With "Vulcan Superior" you have everything "above the bench" —ready at hand. *Convenient* for rapid operation. A sturdy tool, wholly made of tough wrought steel, with reversible jaws which provide *double service.*

Two sizes, No. 11 for pipe 1/8 to 2½ inches and No. 12 for 1/4 to 4½ inch pipe— either size having 1/2 inch greater capacity than other vises of corresponding size. Ask for literature.

J. H. WILLIAMS & CO.,
"The Drop-Forging People"
75 Spring St., New York



Supplied in two styles of finish: chrome-plated; standard, with orange panel in jaws.

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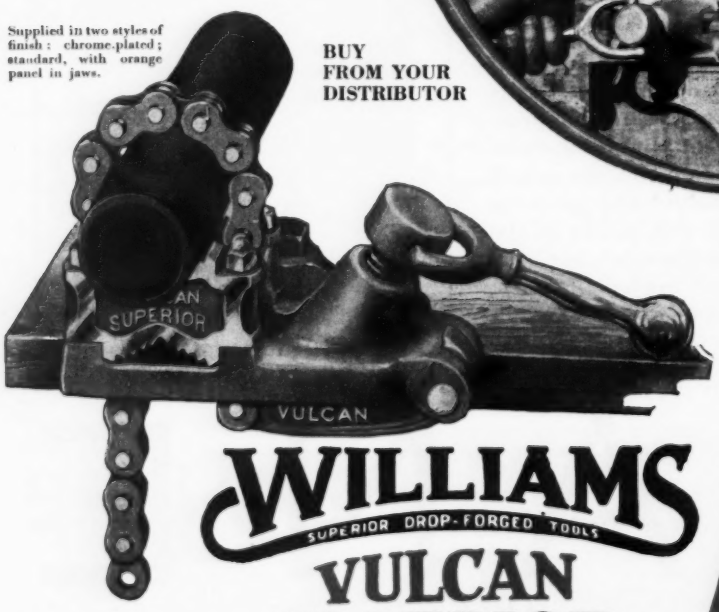


WILLIAMS
SUPERIOR DROP-FORGED TOOLS

VULCAN SUPERIOR CHAIN PIPE VISE

WESTERN WAREHOUSE, SALES OFFICE, CHICAGO — WORKS, BUFFALO, N. Y.

ANSWERED

A few of the Questions of most general interest asked by readers and answered by our engineers

In this issue

1—A Circuit Venting Problem

2—What is a "Dead End?"

3—A Noisy Plumbing Installation

—1—

To the Editor:

I am enclosing a simple sketch of a large plumbing installation that is in the course of construction in this city.

The question has come up as to whether it is correct to use a circuit vent for the line of water closets in the basement.

Circuit venting is being used on all other lines or groups of water closets, but there is a difference of opinion concerning the venting of this one group.

We would appreciate your advice on this problem.

California. A. J. G. and Co.

The sketch alluded to is shown in Fig. 1. The question submitted is a good one. We do not wonder that there is some difference of opinion on it, although in our way of looking at it, there is only one way to vent this group of water closets, and that is by the individual vent method, as shown in Fig. 2.

A battery of water closets discharging into the house drain, unless it is at the end of that line, is working under entirely different conditions than any other similar group, and the difference in conditions affects the nature of the venting that should be used.

In circuit and loop venting, the horizontal soil line must carry the sewage and must also act as a main line of vent, carrying air to the various fixtures. This supply of air naturally occupies the upper part of the pipe, and naturally nothing must be done to interfere or obstruct the free passage of air through this horizontal line.

On such a line of water closets as seen on the first floor, it is an easy matter to determine the size of horizontal pipe that will provide sufficient space for both sewage and air.

In the case of the basement fixtures, however, they discharge into the main line, past which a large volume of sewage from other stacks is constantly flowing. At times of peak load on the system, an even larger volume will be flowing through this main line than at normal times. This means that with any ordinary size of pipe in use, there will be periods when the flow of air may

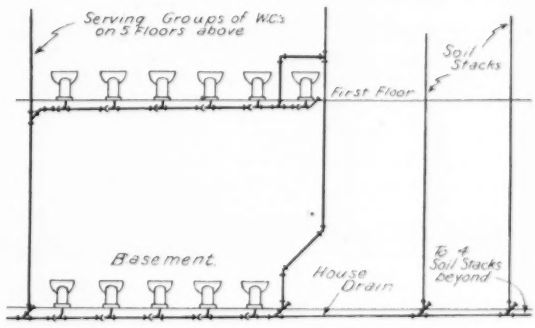


Fig. 1

be practically stopped, and then the fixtures are no longer vented.

This condition would be even more serious in the case of Fig. 1 if the battery of water closets in the basement were to be located at the left of the stack near which they stand, for then the additional volume from the circuit-vented water closet lines above would be flowing past the basement group.

The idea then is that because it is located on the main line, this basement battery of water closets should be served by individual vents rather than by circuit vent.

In Fig. 2 we show the basement fixtures served in this way, with other lines still served by circuit vent.

Strange to say, we hardly know of a single plumbing code that distinguishes between the venting of main line groups and groups of fixtures located on branches.

It might be stated that it would be correct to circuit

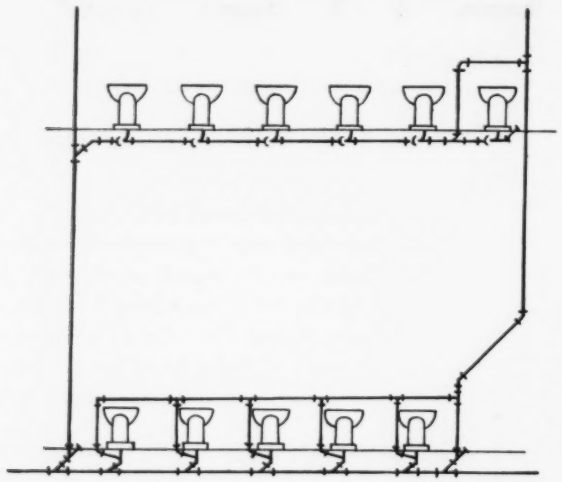


Fig. 2

vent this basement group if a large enough size pipe were used on the house drain to ensure a clear passage for the air. Such a solution would be expensive without producing results which may be as satisfactorily obtained by individual vents.

—2—

To the Editor:

Quite a few discussions have come up lately between the examining board and journeyman plumbers, as to the correct definition of dead ends and overcast joints. Please give the correct explanation of these items.

Louisiana. P. B.

The Hoover code gives the following definition of dead end: "A dead end is a branch leading from a soil, waste, vent, house drain or house sewer, which is terminated at a developed distance of 2 ft. or more by

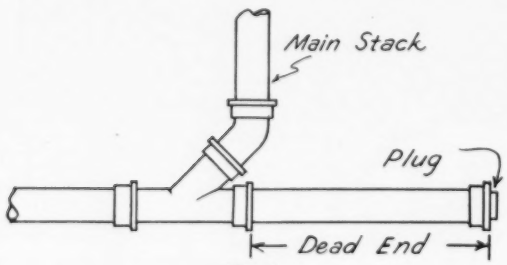


Fig. 1

means of a cap, plug, or other fitting not used for admitting water to the pipe."

This definition is good as far as it goes, but in our estimation it does not go far enough—is not broad enough in its scope. We do not just understand where the 2 ft. limitation is derived from.

A definition that meets our understanding of the meaning of dead end is the following: A dead end is a part of the drainage system that is without ventilation. If the entire plumbing system of a house is without ventilation and the stack is not carried through the roof, then the entire system may be considered a dead end.

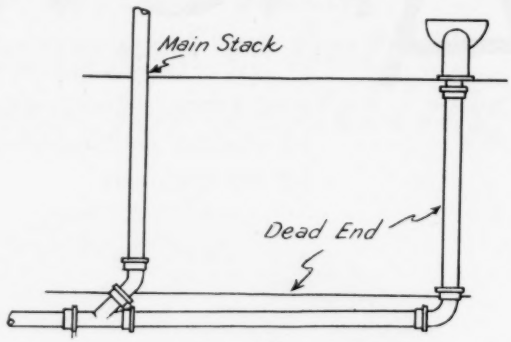


Fig. 2

Strictly speaking, a more common meaning of dead end is a short unvented projection of waste or soil pipe beyond the entrance of the last branch from the line.

Fig. 1 represents the common definition of dead end, and Fig. 2 a broader consideration.

An overcast joint, according to general understanding, is a solder joint made in the form of a wiped joint, on lead pipe, but formed with a soldering iron instead of in the manner that a regular wiped joint is made.

—3—

To the Editor:

I am enclosing a sketch of a job which we have been unable to remedy. This job has worked satisfactorily for seven years, until recently. The water runs freely from all fixtures, but when the toilet is discharged the water in the lavatory trap jumps up into the open fix-

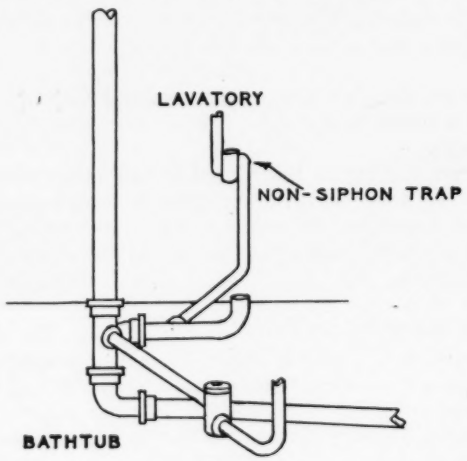


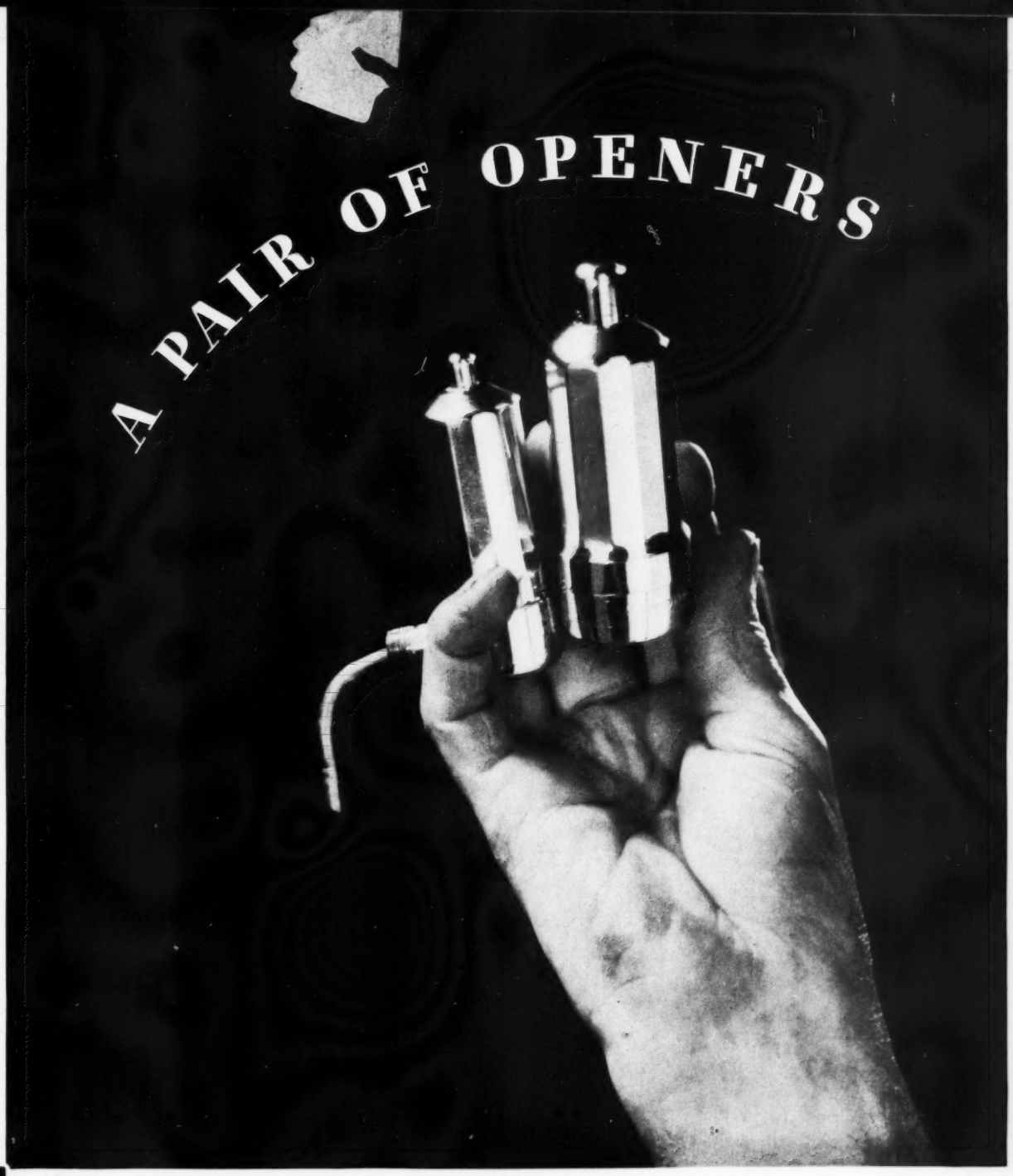
Fig. 1

ture with a noise that can be heard all over the house. Kindly let us know what can be done with this.

Birmingham, Ala. C. G. I.

The accompanying illustration shows the nature of the connections that are said to give the above results.

A PAIR OF OPENERS



Many a time just such a simple thing as a satisfactory air valve has been the opening wedge that made way for good profit opportunities. A house owner with cold radiators and a big coal bill sees your attractive place of business and calls you in.

Using good judgment you put Dole Vacuum Valves No. 2-B on the radiators, and Dole No. 6-B's on the mains—You take no chances with these valves. In the spirit of the times you do a good, yet thoroughly economical job.

Mr. Owner is pleased. The radiators are hot. The home is comfortable and he is glad to learn how little it really costs for such comfort and satisfaction.

Later the same Mr. Owner, now your friend, is in the market for an overhaul job or wants to modernize the plumbing in his home.

(Continued on next page)

DOLE

(Continued from the other side)

You solved the cold radiator problem (with Dole Valves) and he has confidence in your ability and judgment. You will be called again and given first chance at the new job.

Yes, many a time Dole Syphon Air Valves and Dole Vacuum Valves No. 2-B open the way to real business opportunities. They are thoroughly reliable and reasonable in price.

It was a plumbing and heating contractor who first called them—A PAIR OF OPENERS. Write today for descriptive folders.

How it looks inside Dole Vacuum Valve

DOLE VACUUM VALVES 2-B
DOLE SYPHON AIR VALVES

THE DOLE VALVE COMPANY

1913-1933 CARROLL AVENUE
CHICAGO, ILLINOIS, U. S. A.

The problem seems a bit baffling.

If the job has worked O. K. for seven years, it would certainly seem that the difficulty is caused by something that has taken place recently.

It looks to us as if some condition causes the air in the lavatory waste to become compressed, and when this compression reaches a sufficient degree, it blows the seal of the trap. The trap is a non-siphon trap and therefore not vented. If it were vented there could be no compression, and the trap seal would not blow.

Our guess is that the house drain has become clogged or partially clogged, and that clearing the drain will overcome the trouble.

If this condition existed, it might be that the water closet discharge would compress the air in the lavatory waste suddenly and force the seal.

If someone has another theory, we would like to receive their suggestion of the cause of this action.

Questions Answered and Discussed by Readers

How the Question Was Answered

The following question was asked in the issue of August 22, and the accompanying answers are by readers:

On a vapor heating job one radiator refuses to heat up; if you were called in, what steps would you take to locate the difficulty and what would you expect to find was the cause of the trouble?

How Would You Answer This Question?

A certain building has a roof composed of ¼ in. thick composition roofing, 3 in. of cinder concrete fill and a 4 in. concrete slab. There is no hung ceiling under this roof and if artificial means are used to maintain a relative humidity of 60 per cent and an inside temperature of 70 deg. F during the winter is there any danger of sweating on the under side of the roof? What thickness of cork insulation would be required to prevent condensation on the underside of the roof if such condensation would occur?

Answers based upon your experience, and suitable, will be paid for and published in the October 17 issue.

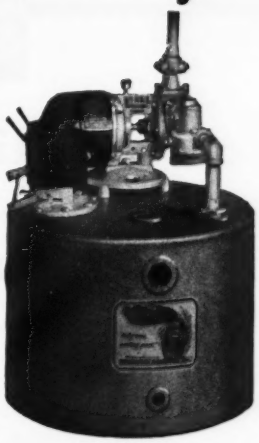
—1—

THE most probable cause of the difficulty is dirt in the return trap assuming that this vapor system employs such devices and so this is the first thing to be investigated. After letting the steam pressure go down, until it is at atmosphere or below, the top of the trap should be removed and the valve and valve seat should be thoroughly cleaned. If this does not remedy the circulation, the trouble may be in either of two places—the supply line, or the return line. Of course the radiator itself might be stopped up, but this is so rare that it can be left to the last thing after all other corrections have failed to eliminate the trouble.

The next step is to disconnect the radiator trap and to

BURKS SUPER-TURBINE PUMPS

ONLY ONE MOVING PART



SERIES 4700

Condensation Return Units

A Pig's Nose

is tender compared to the staying qualities of a Burks Super Turbine Condensation Return Pump. And only one moving part does all the pumping!

Pumps vapor and water at the same time with the same impeller, hence it cannot get air-bound or vapor-bound.

Strong as a battleship. Faithful as your dog.

As Bill Nye would say: You will swear *by* a Burks Pump—not *at* it. A range of sizes and styles available for hot water or cold water service.

Condensation Return Bulletin No. 95.
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Either or both on request.

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TYPES A-AA-B-C-D
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for large hot water boilers
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for small, jacketed hot water boilers and tank heaters
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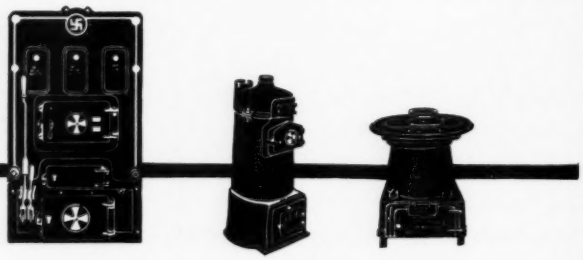
Burnham
HOT WATER SUPPLY
Boilers



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THIS business of hot water supply is growing like the well known "weed." Why not get in on it?

It's not a one class proposition either. The biggest apartment building, hotel, garage, or what not, is as much a prospect for your business getting, as is the most modest residence.

We take care of the equipment, no matter what the size of the hot water supply required. We carry the systems complete, ready for immediate shipment, boilers, tanks, regulators, escape valves and all.

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blow into the inlet of the trap by swinging the trap inlet around to the front; if only a little air can be blown in, before the pressure increases so that a continuation of the blowing is impossible, then the return line must be stopped up probably at some little distance from the radiator. If no air at all can be blown through the trap, the trap is out of adjustment and is shut while cold, whereas it should be open when cold and closed only when hot. In this case the trap should be taken apart and adjusted a little more toward the open position. If air can be blown through constantly and continuously it is pretty good evidence that the return line is open and properly venting the system in general and this radiator in particular. If the line gurgles while blowing through it, there must be a slight pocket somewhere along the return line which should be looked up and eliminated.

A farther check on the return line is to pour a gallon of water into the trap by means of a funnel and then to try blowing through the trap immediately after the pouring of the water is completed. If the return is open full, this water should pass off as fast as it can be poured down the pipe and the line should be open for the free passage of air immediately afterward.

If the return connection passes all these tests it is pretty safe to assume that the trouble does not lie on the return side of the system. On the steam side it is necessary to get up a little steam pressure and to disconnect the radiator supply valve from the radiator. Then by opening and closing this valve rapidly its action may be tested and it will be seen if the valve is causing any trouble on the steam flow. If no steam comes out of the valve then the trouble lies between the supply valve and the boiler. It may be a pocket in the pipe or it may be an inadequate supply of steam from the boiler. If a pocket in the pipe, it will usually make itself manifest by a bubbling sound in the pipe which grows in intensity as the steam pressure is increased and only a check up of the grades and pitches on all lines between the radiator and the boiler will disclose where this pocket, or incorrect slope, may be located.

If the piping shows that it is pitched properly and there is no bubbling to be heard, it is most probable that the boiler is not producing sufficient steam to fill the system and that the cold radiator is simply the one which happens to get robbed. It will be necessary in this case to count up the radiation on the job and to make a suitable allowance for the piping and then compare the size of the boiler installed with the size of boiler required.

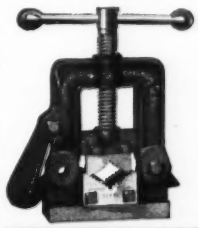
Should several radiators be cold or partly cold on a new system there is a possibility of trouble being located in the air relief; this pipe may be plugged up, the air elimination device may be stuck, or the end of the relief pipe may not be open. In one case there was quite a large vapor job involving several thousand feet of radiation and, when everything was ready to go, fires were made and the steam pressure was raised up to two pounds to blow out the system; a large proportion of the radiators down on the far end of the steam line were giving trouble by either not heating at all or only partially heating. Every known expedient was tried out to find the trouble—portions of the steam main were removed to look for stoppages, traps were gone over time and again. Still the radiators would not

ARMSTRONG BROS.

A quick action vise with a hook that *cannot* break

The Hooks of ARMSTRONG BROS. Standard Pipe Vises are of drop forged steel—*cannot break* for everything else would have to give first. Other features of this vise include: Improved design, convenient weight with greater strength, a clean-cut, positive, faster action—Frame and Base of Certified (40% to 200% stronger) Malleable Iron, finished in black enamel—Jaws of Tool Steel carefully milled, hardened, tempered and tested—double wear thread—oval knobs on handle that will not pinch the hand.

This is one of the *"Better* Pipe Tools," the most complete line of pipe tools made, each an improved tool designed after careful tests of other types and makes.



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"The Tool Holder People"
323 N. Francisco Ave., Chicago, U. S. A.

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but we're sure if you use them on your next installation, you'll pardon us for throwing out our chests. We stand or fall on their ability to perform to your satisfaction—*and we don't intend to fall.*

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Complete line of ALL WELDED and RIVETED AND WELDED Galvanized Boilers.

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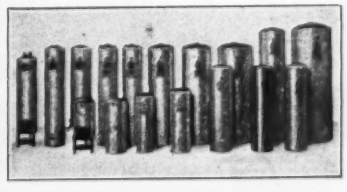

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(Also in larger capacity—No. 280)

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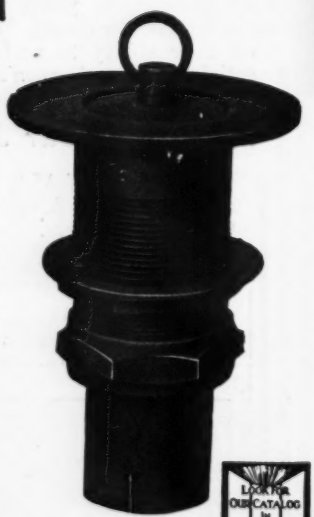

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heat. Finally someone went out and listened at the end of the air vent pipe; there was not a sound, no rush of air, in fact, nothing. Well, to make a long story short, the check valve in the air vent line had been put on backwards so as to open inward instead of outward.

What had happened was that whenever steam pressure was gotten up on the system it simply compressed the air into a small space down at the far end where the air filled the piping and radiators to the exclusion of everything else. Having no means of exit against the closed check it was in the system and as soon as the steam pressure went down it re-expanded and again filled the system, any shortage being very kindly made up at once by the check which opened inward so conveniently for this purpose. There were some extenuating circumstances in this case; the valve was way up on the ceiling of the boiler room where it was not visible from the floor and it had been put in by a fitter who was not familiar with vapor work. But it just goes to show how exacting and full of detail heating work really is.

New Jersey. H. T.

—2—

THE first thing I would check is the pipe lines to see that the steam line runs to the valve and the air line to the trap. Where a number of lines are running, this is an easy thing to do, but it will take a lot of time and cause much expense, especially if the ceiling is plastered; the steam in this case shuts the trap. Another cause for it may be a trapped air line. In fact, there should be no doubt about the pitch on all vapor lines.

Another case that caused me a good deal of grief was a valve handle and stem that came loose from the seat when the valve was taken off. The seat was stuck hard on the seat of the body of the valve, and there is one more reason for this that I know about. I tipped a small radiator upside down to install the eccentric bushing and the trap tail-piece; then, after this was done, I stood the radiator on its legs. In the flopping of the radiator, I must have loosened a lot of cast-iron dust down to the trap end, for, when the steam went on, the radiator would not heat. The trap was taken off and the tail-piece and bushing, and there was a wet, oily mass of cast iron dust at the bottom of the return section, and being an eccentric bushing, it completely and immediately closed the vacuum off from the radiator.

Illinois. J. M.

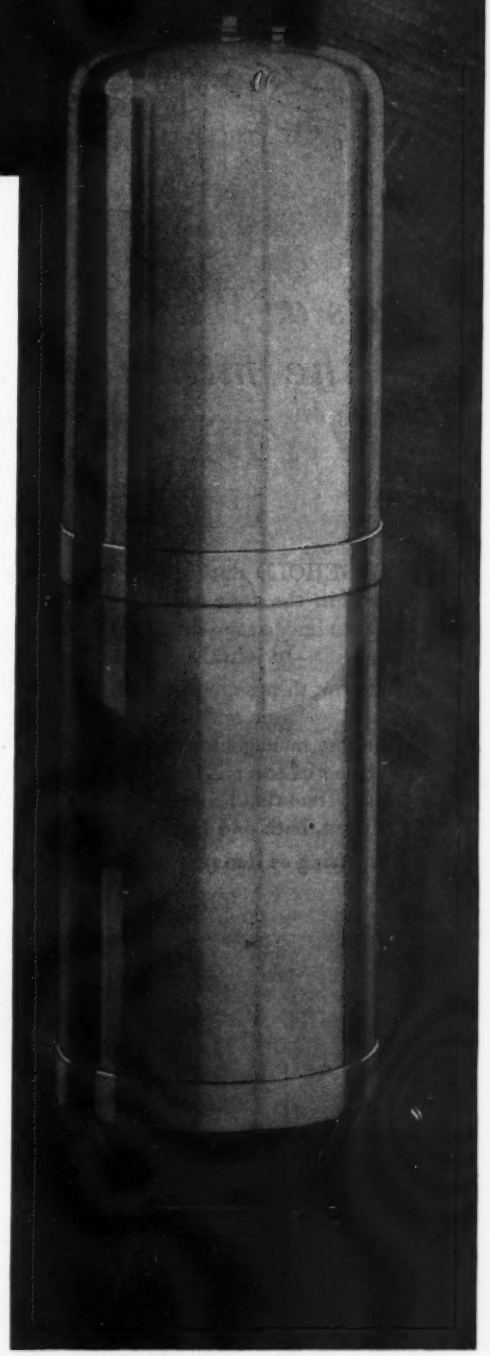
—3—

EVEN though there are various makes of vapor heating equipment, the method of finding the trouble with one radiator not heating would be exactly the same. The very first step to take in the search for the trouble is in the basement.

The feed branch from the main to the radiator should be inspected first. Often after a heating plant has been installed the building will settle, causing the branch to pitch in the reverse direction. A trap of this kind can occur to either the supply or the return main. If there is no fault in either the feed or the return connections the next step is to the radiator.

The radiator valve may at times become clogged, which may cause some trouble. The valve bonnet can

To meet a growing Demand



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MORE than ever before building owners want hot water tanks that can be depended upon for years of trouble-free service...that will not be a source of rust-tinged water in an otherwise rust-proof plumbing system.

¶ To meet this demand The American Brass Company has taken over the production of Brown & Brothers Seamless Drawn Copper Range Boilers—a quality product since 1876.

¶ The dependability of Brown & Brothers Boilers is largely due to their unique construction: Two seamless drawn shells of Anaconda Copper are telescoped together. The joint thus formed—the only one in the whole assembly—is concealed and reinforced by an outer band of heavy, seamless copper. Maximum strength is retained at the top and bottom. Interiors are heavily tinned.

¶ These high-quality Boilers, in sizes from 30 to 200 gallons for use with any type of heating unit are now available in *extra heavy gauge* copper only, at new low prices. Leading plumbing supply houses everywhere can supply you on short notice. The American Brass Company, General Offices, Waterbury, Connecticut

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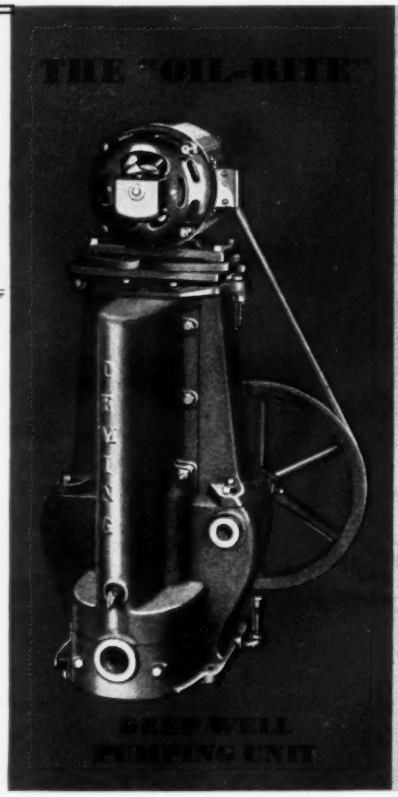

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Combined Splash and Pressure System **assures thorough and continuous lubrication.**

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Helical Cut Gears **make unit exceptionally quiet in operation.**

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Sectional Construction **affords ease in installation and ready accessibility to moving parts.**

4
Exceptionally Large Bearing Areas **provide smooth operation and long life.**

5
Four Sizes, **6", 10", 14" and 18".**

6
Automatic Air Release.

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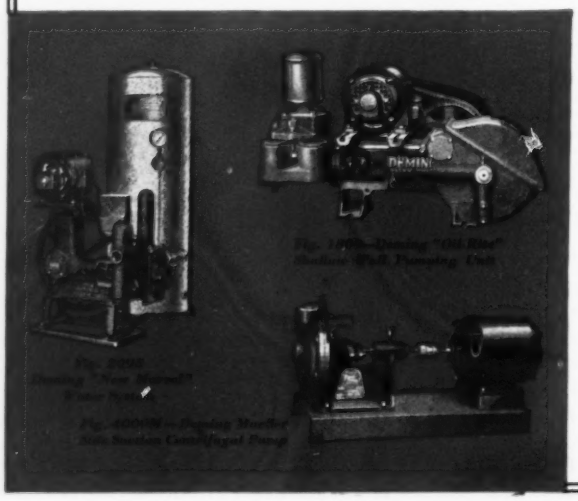
Surprising as it may seem, there are thousands of women—many within your selling territory—who do not enjoy the freedom that a Deming Water System provides—who do not know how reasonably this modern addition to their homes can be purchased—who have not heard the interesting story of how Deming has created pumping units as dependable and as silent as municipal water supply would be.

Become a Deming Dealer! Take on this line that is up-to-date and profitable! Tell and sell these prospects! The first step, of course, is to send the coupon below for full particulars.

THE DEMING COMPANY, *Established 1880,* SALEM, OHIO



Deming WATER SYSTEMS

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very easily be removed so the seat may be cleaned, thus enabling a thorough examination to be made.

The next point to be inspected would be the return trap. I should expect the trouble to lie at this point. The return trap having a thermostatic element in its body may have a tendency to it being tightened down too far, thus preventing the condensate and air from being exhausted. Usually the cap of the return trap can be removed so that the thermostatic element may be adjusted, that the condensate and the air can be released.

With a vapor heating system the steam supply is entered into the top of the radiator, as condensation takes place the steam works down until the entire radiator is filled. If steam is present in the supply pipe and the radiator does not heat, then it is evident the port of the return trap is closed and inoperative. In order for heating to take place it is necessary to see that this air is expelled.

On a vapor heating job the efficiency of the plant depends enormously on the activity of the return trap. The element in the trap should be so sensitive that the port will close and open with a slight variation in temperature.

Where all radiators of a vapor installation heat satisfactorily with the exception of one, the trouble can be traced in the larger percentage of cases to the return trap.

Baltimore, Md. B. J. F.

How to Prevent Flooding of Basements

To the Editor:

This is in reference to the reader question and answer which was published in your July 25 issue on page 133. In the writer's opinion, flooding to the depth of three or four feet might take place by the backing up of the sewer under certain very extreme conditions, or it might result from inability of the house drain and house sewer to carry off roof drainage, with consequent filling of rain water and overflowing into the cellar. In our opinion the latter would be the more probable condition that might result in such a great depth of water in the cellar. These statements are based on the supposition that there is no separate storm water sewer, or that if there is it is too small to carry off the water in an unusually heavy downpour.

Under such conditions we would not know how we could guarantee against flooding, unless it were permissible to disconnect the rain leaders from the sanitary system and discharge the roof drainage in some other way than into the sanitary system.

To overcome the backing of the sewer into the cellar through the various openings, we would suggest the use of a back water valve on the house drain, on the sewer side of all connections.

If we had to guarantee against the back-flow of water from the sewer, we see no other course than to put one of these back water valves or a back water trap on each one of the five branches off the house drain.

Use of a pump that would automatically pump the water out of the cellar onto the surface of the ground or to the gutter would be another method.

Connecticut. S. M. B.

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CADWELL
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NON-ADJUSTABLE, THERMOSTATIC
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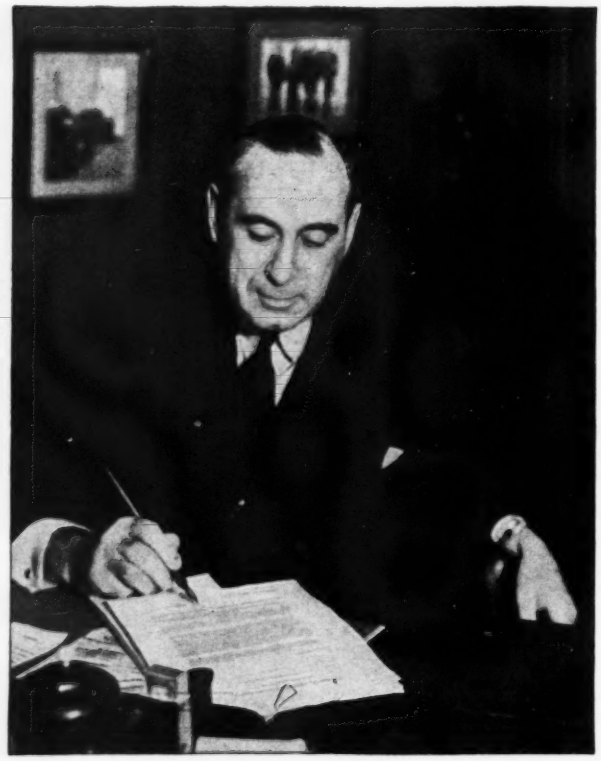

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What is the cost of Bureau reports? Purely nominal! Any advertiser may have them always at his finger tips, simply by joining the distinguished and growing group that now holds membership in the A. B. C. Write for complete facts about Bureau benefits.

An advertisement by the
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Wisconsin Plumbing Supervisors Meet in Manitowoc

At the eleventh annual convention of the Wisconsin Society of Plumbing Inspectors held at Manitowoc, Wisconsin, on August 13 and 14, Eugene Morse of Eau Claire was elected president for the coming year. The other officers elected to fill the slate are Jacob Scheck, of Sheboygan, first vice president; Wm. Liegler of Racine, second vice president; L. A. Bartlett of Pewaukee, third vice president and R. E. Hasselkus of Douseman, secretary-treasurer.

One of the problems confronting the society was that of membership and attendance at conventions. Although at the opening session twenty inspectors were present, this number could be increased greatly. Therefore, in a discussion of ways and means of obtaining a larger attendance at future conventions, it was decided, as an experiment, to meet in 1932 at the same time and place selected by the Wisconsin League of Municipalities. Accordingly, the next convention will be held at Menasha, Wisconsin, on May 25, 26 and 27.

One of the cities in Wisconsin recently passed an ordinance requiring the installation of relief valves on all domestic hot water jobs. In the ordinance, the location of the valve was not specified and the result is that the matter has been left to the discretion of the plumbing inspector.

Of course it is necessary for him to approve or reject such installations and his responsibility would be rather great in the event he approved a job which explodes due to the faulty location of the relief vent. The main question is should the vent be placed on the hot water supply from the storage tank or should it be placed on the cold water supply between the tank and the street main. This was presented at the meeting and a general discussion followed. There are advantages and disadvantages in both locations. It was pointed out that when the relief valve is located on the hot water line, it is subject to the corrosive action of the hot water which in time may cause it to stick. Further, if it is located on the cold water supply, while it may be protected from the hot water, when it operates it discharges only the cold water and the principle in back of its operation is to relieve the tank of excessive temperature and pressure which is done best by drawing off the hottest water. The consensus of opinion was that the best place to locate the relief valve is on the hot water supply side of the

Left to right: J. A. Redmond, Knoxville, Tenn.; M. J. Chagnard, Louisville, Ky.; Mrs. and Mr. E. J. Conner, Cincinnati, Ohio. Photos taken at the annual convention of the Heating and Piping Contractors National Association, held recently at Louisville

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A Sturdy Electrically Driven Unit that Corrects Hard-to-Heat Systems, Both Old and New

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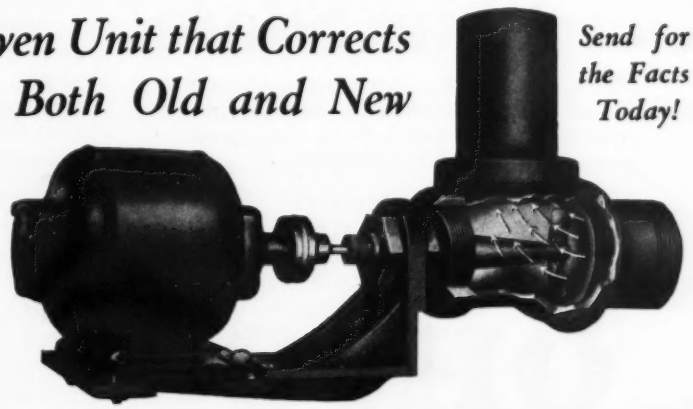
Those old jobs with "orphan" radiators that do not heat are easily corrected with the Rochester Circulator. And you can guarantee lower fuel bills on new installations by eliminating the sluggish movement of the ordinary hot water system.

For every heating purpose—every building—and any size! An absolute guarantee and thirty days free trial.



The Rochester Circulator Corporation

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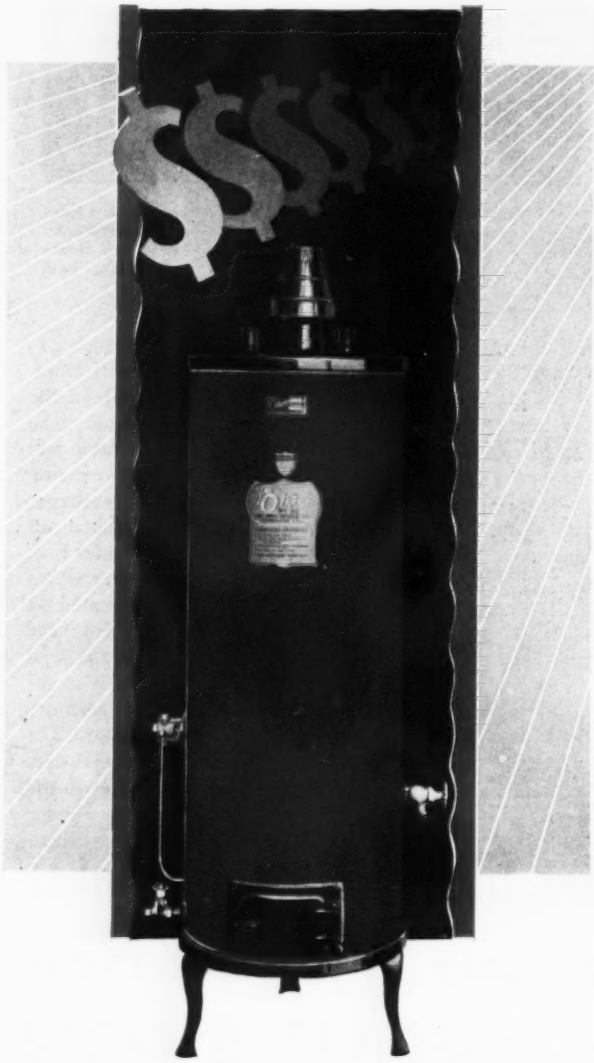

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Automatic
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tank so that when it operates it will relieve the pressure and temperature at the hottest point.

Other subjects which received consideration are "The installation and operation of sewage sump pumps and ejectors serving buildings," "The legality of the new Wisconsin state plumbing code" and "The installation and operation of grease traps."

The first of the above mentioned subjects was presented by John Oakey of the University of Wisconsin hydraulics department and many points of general interest were brought out both in the talk and in the discussion which followed. Frank R. King and Clarence Teitgen who is the city attorney of Manitowoc, discussed the features of the new plumbing law. This is a subject which is of great importance to the plumbing inspector insomuch as all of his actions are based upon it. The third subject was handled by George J. Dehn of the Compound Injector and Specialty Co. of Chicago.

The subject of a second short course in plumbing and hydraulics to be held at the University of Wisconsin next winter was mentioned and practically all those present showed considerable interest in it. As a matter of fact, many of them attended the first course held last winter.

It was pointed out in the meeting that the new Wisconsin plumbing code refers to the plumbing inspector as a plumbing supervisor.

◆

Comforts In Summer Travel

(Illinois State Register)

The initiative displayed by the Baltimore and Ohio railroad in putting into service an entire train in which air cooling and air conditioning equipment has been installed augurs business getting possibilities which should go far in repopularizing travel by rail in the immediate future.

The 'refrigerated" or air cooled diner put in its appearance a year ago when the Baltimore and Ohio and the Santa Fe system introduced this feature on their summer trains. Other roads have also added such diners, but the B. & O.'s special is the first complete service to be rendered in trains thus equipped.

It is reported that the train which has been air cooled has been averaging three times the patronage it enjoyed when equipped in the usual way, and such has been the interest and appreciation and comment that more complete trains of this kind are said to be planned by the competition.

Automobiles and bus lines have made great inroads into the business of the railroads, but it is conceivable that if the older common carrier is able to perfect its facilities to a point where the traditional irritants of heat and dust and grime can be largely eliminated, it will be in a position to reclaim much passenger traffic during the warm months.

The scope of service requirements broadens every year in every line of business. With the railroads, the twin elements of speed and comfort have been well emphasized and in the summer time it would seem that such facilities as air cooled trains should make a strong appeal. The experience of clubs, cafes, and theaters in thus catering to the public has been a real object lesson in appreciation and increased patronage during the heated term. And, we opine, it will prove equally popular with the traveling public.

MARKETS

BUSINESS REPORTS FROM LARGE JOBBING CENTERS

REPORTS from most of the leading jobbing centers in the country are to the effect that boilers and radiation continued to experience the better demand that has prevailed in this market for the past several weeks. The movement of plumbing supplies continues to hold at close to the same volume from one week to the next, according to most manufacturers and wholesalers interviewed.

Some reports have been received of slight improvement in the movement of finishing goods, but in the majority of cases any change is said to be of minor importance and hardly significant of any trend. Manufacturers of roughing-in goods say that demand from wholesalers is light. Soil pipe foundries report little business other than single carload lots. Manufacturers report no difficulty in meeting the delivery requests of their customers. Jobbers' stocks are being held at minimum working levels, but contractors are usually able to secure material as needed. No reports have been received since our last review appeared of changes in manufacturers' published prices to wholesalers.

Building permits issued in 528 cities and towns of the United States during the month of July amounted to $110,399,933, according to official reports made to S. W. Straus & Co. This figure represents a 2 per cent increase from June of this year, when the volume was $108,215,822. Normally there is a seasonal decrease of about 13 per cent between the two months. The permits issued during July, 1931, fell 33 per cent below the same month of 1930.

July shipments of vitreous china plumbing fixtures, including all vitreous china ware which in regular practice is connected with a drainage system, as reported to the Bureau of the Census by 25 manufacturers, were 146,863 pieces, as compared with 163,071 pieces in June, and 184,454 pieces in July of last year. The total shipments for the first seven months of 1931 were 1,171,905 pieces, as compared with 1,518,853 pieces in the corresponding period of last year.

July shipment of range boilers, based on data reported to the Bureau by 17 manufacturers, the value of whose output constitutes approximately 90 per cent of the total for the industry, were 46,036 units, as compared with 41,001 units in June, and 42,521 in July, 1930. Total shipment for the first seven months of 1931 were 331,767 units, as compared with 362,347 units in the corresponding period of 1930.

July shipments of plumbers' woodwork, as reported to the Bureau by 19 manufacturers, were 108,525 pieces, as compared with 126,032 pieces in July, 1930. Total shipments for the first seven months of 1931 were 837,938 pieces, as compared with 977,042 pieces in the corresponding period of 1930.

The Truth About 1931 Business — No Guesses

HOW does business in the plumbing and heating industry compare with that of last year and 1928 and 1929? This question has been asked a thousand times over—with about as many different replies. As a result, anyone seeking accurate information on the condition of business has frequently been left in a perplexed state in the end. The only thing that was agreed was that business was off—but just how much off was still a question.

In order to find an answer to this question, the National Pipe and Supplies Association, the only strictly distributor organization in the industry, has secured from a selected list of 400 wholesalers in the United States the facts of the matter. It is an especially valuable piece of work at this time. The report, which follows, should set at rest many rumors which are unfounded.

The Report

With reference to the volume for the first six months of 1931, the average distributor's business is off 22 per cent. In some sections the volume is off 30 per cent from the low volume of 1930. The fact that 55 per cent of the reporting wholesalers are going to educate their salesmen in selling methods is a favorable sign.

Question: How did the first six months of 1929, 1930 and 1931 compare with 1928?

VOLUME

	1928	1929	1930	1931
High	*100%	150%	125%	120%
Low	100%	77%	60%	30%
Average	100%	104%	89%	67%

* Using 1928 as 100%.

PROFIT

	1928	1929	1930	1931
High	*100%	115%	103%	95%
Low	100%	88%	60%	85%
Average	100%	97%	86%	63%

* Using 1928 as 100%.

The average distributor's profits for the first six months of 1931 have shrunk 23 per cent. Lower commodity prices have brought inventory losses, even though stocks are known to be low. Consistent shopping around or matching of prices, together with mail order and direct-to-you special advertising of low prices, have also lowered distributor's volume and profit.

Distributors have shown wisdom in not reducing their sales staffs to any great extent. The average company reporting shows a steady employment of its salesmen. There have, however, been reductions in the total number of employes, as 77½ per cent of the reporting firms had fewer employes in 1931 than in 1928.

Question: How many salesmen were employed by you on July 1, 1928, 1929, 1930 and 1931; also total number of employes?

SALESMEN

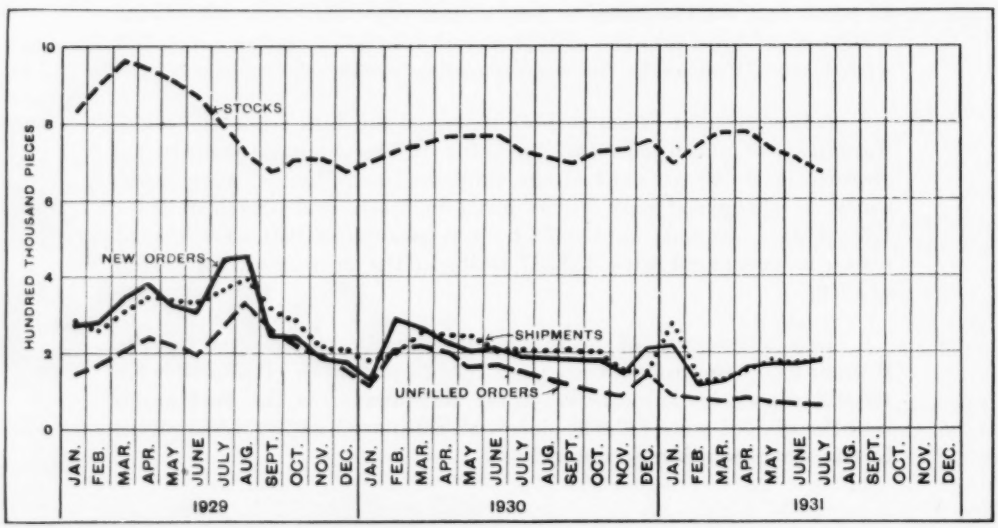
	1928	1929	1930	1931
High	20	24	23	22
Low	2	2	2	2
Average	7	7	7	7

EMPLOYES

	1928	1929	1930	1931
High	153	139	122	107
Low	9	9	8	8
Average	39	39	38	31

The reports received showed that in 1929, 65 per

July Enameled Ware Shipments Best Since January



The Metal Market

	Sept. 15	Avg. August, 1931	Avg. June, 1931	Avg. 1929
PIG IRON—				
No. 2 foundry, Chicago	$17.50	$17.50	$17.50	$20.00
PLATES AND SHEETS—				
Steel boiler plates, Pittsburgh, per lb.	1.60c	1.60c	1.65c	1.93c
Blue annealed sheets, No. 10, Pittsburgh, per lb.	1.85c	1.85c	1.85c	2.17c
*Hot rolled annealed sheets, No. 24, Pittsburgh, per lb.	2.40c	2.40c	2.15c	2.85c
Galvanized sheets, No. 24, Pittsburgh, per lb.	2.90c	2.90c	2.80c	3.57c
TIN—				
Straits tin (spot) New York	25.75c			
LEAD—				
E. St. Louis	4.22½c			

The Old Metal Market
Dealers' Buying Prices

	Per lb.		Per lb.
Aluminum clippings	13 c	Copper, light	4½c
Block tin pipe	17½c	Heavy copper and wire	5 c
Brass, light	2⅝c	Zinc, old	1½c
Brass, heavy yellow	3 c	Lead, heavy	3⅛c
No. 1 comp. red brass	4¾c	Solder joints (close cut)	5 c
Heavy crucible copper	5¼c		

NOTE: Prices are those quoted on Tuesday of this week.
* Comparisons are with old classification No. 24 black sheets.

cent of the firms employed the same number of salesmen, 19 per cent employed more salesmen, and 16 per cent fewer salesmen than in 1928. In 1930, 51 per cent employed the same number of salesmen, 28 per cent more, and 21 per cent fewer salesmen than in 1928. In 1931, 42 per cent employed the same number, 14 per cent more, and 44 per cent fewer salesmen than in 1928.

In regard to number of employes, the reports showed that in 1929, 45 per cent of the firms had the same number of employes, 32½ per cent had more, and 22½ per cent fewer employes than in 1928. In 1930, 30 per cent of the firms had the same number of employes, 30 per cent had more, and 40 per cent fewer employes than in 1928. In 1931, 15 per cent had the same number of employes, 7½ per cent had more, and 77½ per cent had fewer employes than in 1928.

Question: Considering January, 1931, as 100 units of business, how do February, March, April, May and June, 1931, compare?

	Jan., 31	Feb.	Mar.	Apr.	May	June
High	100%	140%	177%	246%	220%	217%
Low	....	61%	53%	68%	37%	43%
Average	....	95%	104%	121%	121%	122%

In studying the average under the units of business, it will be noted that there has been a steady pick up in business in March, April, May and June.

Question: What is the per cent of total overhead as related to the total sales for 1931?

	Jan.	Feb.	Mar.	Apr.	May	June
High	47%	58%	65%	51%	45%	49%
Low	14%	14%	10%	10%	9%	10%
Average	32%	34%	33%	27%	27%	26%

It will also be noted that as the units of business show increase, the total overhead shows a slight decrease.

◆

Is Named Joliet Plumbing Inspector

A. C. Naal was recently appointed plumbing inspector of the city of Joliet, Ill. He succeeds W. L. Eriksen.

PHOENIX

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FITTINGS

Fittings of quality. Made under close and rigid supervision. Individually air tested under water.

Phoenix Brass Fittings Corp.
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Lansing, Mich., Association Holds Enjoyable Outing

The Master Plumbers' Association of Lansing, Mich., held its annual outing this summer at Pleasant lake, which is about ten miles north of Jackson. In the neighborhood of 125 persons attended the affair. A fine luncheon was served among the beautiful maple trees that cover the park. After luncheon a snappy ball game was played between the master plumbers and the journeymen. The game was won by the masters by a score of 16 to 12. Oscar Veelman did the pitching for the master plumbers' team.

Frank Dains, of Lansing, chief state plumbing inspector, was present. Ed. Gibbons, past president of the Lansing association, was unable to attend because of illness. This was the first picnic he had missed attending in many years. William C. Heggie was chairman of the committee in charge of arrangements.

◆

Philadelphia Masters Hold Outing Despite Rain

Rain in torrents could not dampen the enthusiasm of members of the Philadelphia Association of Master Plumbers Saturday, August 29, for two hundred folks defied the elements and held the annual family basket picnic at Forrest park, Chalfonte, Pa. President Maney Feeney, with the entire old guard, turned out. Harold C. Asquith had charge of the athletic events, which were run off on a soggy field.

Mrs. E. F. Quaid won a lamp for her proficiency in driving nails, with Mrs. J. Palfreyman runner up, who received a vanity brush.

The three-legged race for men was won by Ed. Quaid and Charles Bergmaier, who received a bridge set. John Hanahan and Ed. Quaid, Jr., took second place and received a bridge set. In the sack race for ladies, Miss A. Quaid won first prize and Mrs. E. Hendricks, second. They were given vanities.

In the 100 yd. dash for girls over twelve, Alice Herbert won first prize, a brief case; Helen Feeney, second prize, a compact.

In the 50 yd. dash for girls under twelve, Lorrance Herbert won first prize, a pass ball; Marie Kuhn, second prize, a carpet sweeper.

In the balloon race for girls, Alice Herbert won first prize, an atomizer; Helen Feeney, second prize, bath salts.

In the balloon race for boys, Ed. Quaid, Jr., won first prize, a football; Joseph Barton, second prize, a scout knife.

The first prize in the egg race for ladies was won by Mrs. E. H. Rinear. She received a tea set. Miss Kathryn Cramer won second prize, a bonbon dish.

Mrs. E. H. Rinear won first prize in the balloon race for ladies, and received a cracker jar. Mrs. George Hicks won second prize, and received a jar of candy.

In the 100 yd. dash for boys over 12, Thomas Larson won first prize, and received a brief case. Harry Chatman won second prize, a scout knife.

In the 50 yd. dash for boys under twelve, Donald Hanahan won first prize, a sail boat. Joseph Quaid won second prize, a golf set.

In a special sack race for $50 in gold, Secretary Robert Pflug-Felder won easily, with President Maney Fee-

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Design, workmanship and materials are all important in buying Valves and Fittings, but far more important is the INTEGRITY OF THE MANUFACTURER.

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For almost 80 years Jarecki has sought through its products to give an EXTRA MEASURE of value. That is why Jarecki Valves and Fittings are tested far BEYOND their working pressure ratings—why so many companies who try them soon adopt them as STANDARD. May we give you further details?

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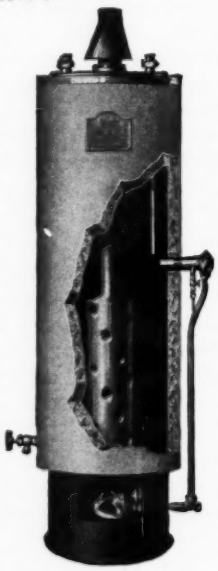
Greatest Efficiency Yet Reached!

ENTIRELY new and different design in an efficient, permanent Automatic Hot Water System. Lifetime copper heating element is submerged in vitreous enameled tank. Tests reveal an efficiency never before attained—dependable, continuous supply of clean, hot water assured for the life of the building.



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.ney second. However, Mr. Pflug-Felder was disqualified for tearing his sack. The field was narrow, only George Hicks, Harry L. Stillwell, Mr. Pflug-Felder and Mr. Feeney participating. Mr. Pflug-Felder donated his $50 gold piece to the association.

A tug-of-war staged by Maney Feeney resulted in a decisive win for the team made up of Messrs. Stillwell, Sr., Stillwell, Jr., Junkerman, Hendricks, Falcione, Cramer, Nagele, and Liebner.

◆

Trenton Masters Hold 26th Annual Outing at Fair Grounds

One hundred and fifty master plumbers attended the twenty-sixth annual outing of the Trenton (N. J.) Master Plumbers' Association, which was held at the Trenton fair grounds on August 19. A buffet luncheon was served throughout the day, and everyone just stepped up and got what they wanted and as often as they wanted it.

The baseball game was won by the master plumbers, who defeated the salesmen to the tune of 13 to 9. The plumbers also whipped the salesmen in the broom polo match, by a score of 4 to 2. The state representatives present were George L. Bird, Elizabeth; Ed. Ingram, Jersey City, and Lester Wake, Newark. Among the old-time contractors present were R. Spencer and F. Fitzgeorge.

William J. Lee was chairman of the committee, assisted by Frank B. Penrose and Anthony Dennish. President J. Miller Heidweiler also took an active part in the affair.

◆

Oranges (N. J.) Association Holds Annual Outing

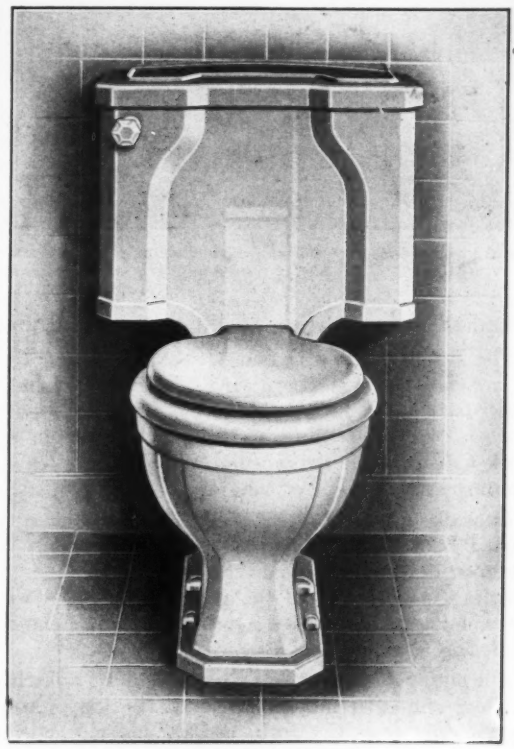
On August 27, at Lake Hopatcong, Bertrand Island, N. J., the Master Plumbers' Association of the Oranges, N. J., held its annual outing. Early in the day threatening weather kept down the attendance, but during the afternoon it cleared and the day turned into an enjoyable one. A baseball game between the plumbers and the manufacturers' salesmen present was won by the former. Of the day's sports events, though, the horseshoe pitching contests were the most spirited and closely followed. One notable match had the crowd in frenzied excitement most of the time. The match, composed of Mort McChesney and Fred Hoffman playing against George Fricke and Charles Kunz, was packed with thrills. Mr. McChesney and Mr. Hoffman, after some sensational hurling and ringer bating, captured the honors.

The women present were guests of the W. V. Egbert & Company, Inc., on a scenic boat ride on beautiful Lake Hopatcong.

◆

Death of George R. Morton

George R. Morton, for many years a prominent plumbing and heating contractor in St. Paul, Minn., died August 9 at his home at White Bear Lake. He was in his 83rd year. Mr. Morton installed many of the plumbing, heating and ventilating systems of the larger buildings in St. Paul. He retired from active business several years ago.



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Beauty that will enhance any bath room, efficiency and quality that are worth twice its price! The Revelation is only 33 ins. high. The seat lid fits into tank depression, saving space. Extends two to four ins. **less** into room than ordinary combinations. Can be placed anywhere in room; tank is highly glazed, front and back. Integral, tank is bolted to bowl (bolts not exposed to water).

Tank trimmings of highest quality insure quiet operation. See the Revelation at your jobber's, or at any of the branches listed below. Write for complete information.

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Alamo Plumbing Supply Co.
637 E. Crockett St.,
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Plumbing Fixture Company
12414 Euclid Ave., East Cleveland, Ohio

Group picture taken at the annual outing of the Association of Master Plumbers of the City of New York, Manhattan Branch, held recently at Karatsonyi's Glenwood Landing, Long Island

Manhattan Association Holds Successful Outing

The Manhattan Association of Master Plumbers held its annual outing at Karatsonyi's, Glenwood Landing, Long Island, N. Y., on Thursday, August 27. Two chartered buses left the association's clubhouse in New York City early in the morning, arriving at Glenwood Landing at noon, where breakfast was served.

Immediately after breakfast a baseball game was started between the plumbers and the salesmen. The salesmen defeated the plumbers by a score of 14 to 3. Charles Hassell umpired the game. Each member of the winning team received a pen knife, while those on the losing team received a pencil.

The outing committee was composed of E. Kalisch, H. H. Berg and Miss Marion Taylor. The judges named for the day were: C. Mork, J. Daly and R. Anderson. A shore dinner served at Karatsonyi's Inn, where the outing was held, made the day a complete one. Four hundred persons attended the outing, including the following pioneer plumbing contractors, William Young, Gus Hansen, R. Tretter and P. Eich.

◆

Fairfield County Masters Hold Clam Bake and Athletic Meet

The Fairfield County Master Plumbers' Association held its eleventh annual clam bake and athletic meet at Dorlan's Point, Norwalk, Conn., on August 5. About 150 master plumbers attended, together with their wives, arriving about noon. The baseball game between the plumbers and the salesmen was started without delay. The plumbers whipped the salesmen by a score of 14 to 8, and showed real big league form throughout the game. The following received prizes in the various athletic events: Fred Blackwell, T. Ireland, A. Grogins, J. Goulden, A. Cristie and B. Hughes. During the afternoon the women played bridge. Mrs. C. Weitzel, publicity director of the Connecticut Women's Auxiliary, was in charge, assisted by Mrs. A. C. Hughes of Norwalk and Mrs. O. Noyd, of Darien.

The committee in charge was composed of Fred Rutz, chairman, H. McGill, William Henry, J. Forger, C. Weitzel and H. Nathan. A shore dinner was served in the evening to conclude the day's program.

◆

Colorado Masters Hold Big Outing at Boulder

The annual joint outing of the Denver Master Plumbers' Association and the Colorado Society of Sanitary and Heating Engineers was held at Roxwood Park, Boulder, Colo., on August 30. Colorado sunshine prevailed all day and the crowd of some eight or nine hundred master plumbers, journeymen, supply house people, their wives and children had the time of their lives. Anticipating this large crowd, the entertainment committee had previously arranged for trucks of ice cream, soft drinks, candy, cigars, ice, lemons, etc.

Top row, left: A group of participants in the president's pop-nursing contest. Center: Some of the members of the Denver auxiliary, Mrs. Robert Demmer, Mrs. Frank Bordeau, Mrs. J. P. Brickey, Mrs. Frank Hanlin, Mrs. William Hensler, Mrs. E. B. Clayton, Mrs. C. R. Cooper, Mrs. John Hensler, Mrs. F. L. Welle, Mrs. George Stocking and Mrs. V. A. Kiser, president. Right: Some of those who participated in the pie-eating contest.—Bottom row, left: the cracker-eating contestants, who seemed to enjoy themselves. In the center: A. J. Adshade, president of Denver association; Robert Street, Denver examining board; Mike McDonough, state examining board; Charles S. Turner, Boulder, an honorary member of Colorado association. At the right: The boy's balloon-blowing contest gave a lot of fun to those who entered. Pictures taken at the joint outing held recently by the Colorado and Denver master plumbers

At 12 o'clock noon some twenty-five or thirty gallons of coffee were served to the guests assembled, who brought their own basket lunch, which they spread on the tables in the picnic grove. Refreshments were free to all who wore the association badge. The majestic Rockies, only three miles away, gave a picturesque setting for the picnic. About one hour after lunch the annual games and events were started.

The humorous events of the afternoon were the boys' pie eating contest and the president's pop nursing contest. The sad part of the afternoon came in the ladies' backward race, when Mrs. John Hensler, of Denver, fell and broke her right wrist and had to be taken to a Boulder hospital for treatment.

Heating in Residences and Small Structures

(Continued from Page 35)

face to glass surface will be seen to be

240 / 77 or 3 plus

while, if the ordinary frame, or 12-in. brick, wall has a loss approximating 20 Btu. per hr., the ratio of radiator surface to wall surface will be

240 / 20 or 12

At one air change per hour, each cubic foot of air requires to be raised from zero to 70 F and this absorbs

$$\frac{1 \times (70 - 0)}{55}$$

or about 1¼ Btu.

240 Btu. / 1¼ Btu. is 192 the ratio.

If we use these corrected ratios the result becomes

Glass, 51/3.1	16.4 sq. ft.
Wall, 117/12	9.7 sq. ft.
Contents, 1,680/192	8.7 sq. ft.
Total radiation for S. Exp.	34.8 sq. ft.
N. Exp. adds 25% or	8.7 sq. ft.
Total radiation for N. Exp.	43.5 sq. ft. steam
Adding 60% for hot water	26.1 sq. ft.
Total radiation for hot water	69.6 sq. ft.

It will be seen from this that the Mills rule is a little more than safe and for that reason it was used for many years without any additions for exposure. Still, it is quite self-evident that more radiation is required on the north side than on the south for identical wall and glass areas.

Quite a few engineers in calculating heating surface use what is known as the decimal factor method. In this system of figuring the factors are developed by dividing the loss in Btu. per sq. ft. of wall and glass by the efficiency of one sq. ft. of radiator surface which produces a decimal by which the surface of wall or glass may be multiplied to give the required radiator surface directly. Thus, if the loss per sq. ft. of wall surface were 20 Btu. per hr., and if the heat supplied by the radiator is 240 Btu. per hr., the decimal resultant is

20 / 240 or 0.08

and if glass loses 77 Btu. per sq. ft. per hr., the decimal for glass would be

77 / 240 or 0.32

and similar factors may be developed for every kind of construction, including floors, ceilings, and air change.

T/N furnishes the ammunition

IT'S time you took every noisy, stained old toilet in your territory for a "ride" (Chicago style). Let T/N furnish you with the selling ammunition. T/N fits under windows, in corners, under stairs—places where other toilets couldn't go—because it has no cumbersome wall-tank. 12" minimum roughing space is all that's needed.

A world of other talking points, too! Quiet flushing. Modern design. Tank and bowl, one-piece finest vitreous china. Non-overflowing. Wide range of colors as well as white. Best of all, moderate price brings it well within small remodeling budgets. Installation is simple—only 2 connections—saves you time and labor. Your jobber's name? Write us today.

ONE PIECE WATER CLOSET SILENT NON-OVERFLOW
Patented. Pat. Pend.

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T/N

ONE-PIECE WATER CLOSET

BE SURE IT'S FRETZ-MOON PIPE

• Through its past performance, Fretz-Moon Pipe — black and galvanized—has become the exclusive choice of many architects, engineers, contractors and pipe users.

• Fretz-Moon has proved its high quality—the result of careful selection of materials, an exclusive process of manufacture entirely different from any other, and rigid testing and inspection.

• It has proved its easy working qualities that save fitting time and money—made possible through deep, sharp, accurate threads; improved ductility in the metal; and freedom from "hard or burnt spots" that might cause cutting or threading trouble.

• If you would guarantee satisfaction to everyone concerned with your next piping job, use Fretz-Moon Pipe.

FRETZ-MOON TUBE CO., INC. · BUTLER, PENNA.

FRETZ-MOON PIPE

BLACK AND GALVANIZED

With this method the usual exposure corrections are made for North, West and East.

The most accurate method of calculating heat losses is what is commonly termed the Btu. method. In this method the wall, glass, ceiling, floor and all other cold surface areas are computed and the number of Btu. transmitted through each type of construction is obtained from tables; then each area is multiplied by its proper transmission factor and the results are all added together after being corrected for exposure. The total Btu. is then divided by the Btu. transmitted by the radiator under the conditions existing and the result is the required amount of radiator surface to maintain the room at the temperature selected. Inasmuch as the decimal factor method is based on Btu., it probably is almost as accurate as the Btu. method, the difference—if any—being caused by not carrying the decimal used out a sufficient number of places to give really accurate results.

Table I

NOMINAL RADIATOR SURFACE FOR COLUMN AND TUBULAR TYPES

Column Types—*Square Feet Surface

Regular

Height	1 Col.	2 Col.	3 Col.	4 Col.	Window
45″	..	5	6	10	..
38″	3	4	5	8	..
32″	2½	3 1/3	4½	6½	..
26″	2	2 2/3	3¾	5	..
23″	1 2/3	2 1/3	3	4	..
20″	1½	2	2¼	3	5
18″	..	..	..	..	4½
16″	..	..	..	..	3¾
12″	..	..	..	..	3

Hospital

45″	..	5	6	10	..
38″	3	4	5	8	..
32″	2½	3 1/3	4½	6½	..
26″	2	2 2/3	3¾	5	..
23″	1 2/3	2 1/3	..	..	..
22″	..	..	3	4	..
20″	1½	2	..	..	..
18″	..	..	2¼	3	..

Tubular Type—Square Feet Surface**

Regular

	3-Tube	4-Tube	5-Tube	6-Tube	7-Tube
38″	3½	4¼	5	6	..
32″	3	3½	4½	5	..
26″	2 1/?	2¾	3½	4	..
23″	2	2½	3	3½	..
20″	1¾	2¼	2 2/3	3	3 2/3
17″	..	..	..	..	3
14″	..	..	..	..	2½

Hospital

38″	3½	..	5	..	..
32″	3	..	4 1/3	..	..
26″	2 1/3	..	3½	..	..

* Nominal Surface.

** Based on Heat Emission of 240 Btu.

As different heating systems and buildings are considered later on, various methods of calculating heat losses will be explained and illustrated so that the reader may see just what variations exist between the three methods outlined and can select whichever he feels the most desirable for the work he has under consideration. The amount of surface which the column types formerly were supposed to include has been listed in Table I, together with the rated square feet of the newer tubular types. So many buildings are equipped with column radiation that it will be a factor which must be considered in every addition and remodeling job for a great many years.

In the next chapters the hot water heating of a typical bungalow without a cellar will be considered, all the heat calculations will be made, radiators and pipe sized, the heater selected and piping run around building.

A. S. S. E. At Richmond Takes Action To Join American Standards Association

Thomas M. Dugan, new president

RICHMOND, VIRGINIA, was the meeting place this year for the twenty-sixth annual convention of the American Society of Sanitary Engineering, held on September 8, 9, 10 and 11, with headquarters at the Jefferson hotel.

The new president is Thomas M. Dugan of McKeesport, Pennsylvania, who for the past two years served as secretary of the society under A. R. McGonegal, the retiring president. George Stolz of Milwaukee was elected first vice president; Wm. D. Hobro of San Francisco, second vice president; Luke J. Devine of Elizabeth, New Jersey, third vice president; A. D. Chandler of Fort Worth, Texas, fourth vice president; James Smith of Winnipeg, Man., Canada, fifth vice president; Wm. H. Meadows of Toronto, Ont., Canada, sixth vice president, and Thomas J. Manahan of St. Louis, seventh vice president. It will be noticed that these vice presidents are located in the various parts of the United States and Canada and in effect they are zone officers. Their function, of course, is to promote the activities of the society in their sections.

J. R. Walker of Waterbury, Connecticut, who has the life-time office of librarian, has taken on the additional duties of secretary through the appointment made by the new president. J. F. Doud of Cincinnati again was re-elected treasurer.

Of the four elective members of the board of directors, only one came up for re-election. This was Thomas J. Lee of Pittsburgh, and he was again elected to serve a four-year term. R. J. Barrett, of Washington, D. C., again was appointed liaison director to act between the society and the National Association of Master Plumbers. During the meeting a communication from the National Association of Master Plumbers was read announcing that Mr. Barrett also is the official representative of that association in the society.

1 — Technical information of general interest and application presented and discussed

2 — Quarterly, instead of annual, reports are to be distributed to keep the membership in closer touch with the society's activities

3 — Expenditures to be made to perfect and follow up list of plumbing inspectors

The major actions taken by the society may be considered summarized in the resolutions which were passed. These are as follows:

Resolution No. 1.

Offered by President McGonegal per his report of Sept. 8th.

"Whereas, there was recently compiled recommendations for sanitary drinking fountains by a joint committee of the sanitary section of the American Public

A group of members and guests at the convention

Health Associations and the Conference of State Sanitary Engineers, and

"Whereas, these recommendations are in our judgment well warranted as a protection to public health.

"Now, Therefore, BE IT RESOLVED that this body concur in said recommendations, provided, however, that the words 'and vented' are added at the end of Paragraph 7."

Resolution No. 2.

Offered by President McGonegal per his report of Sept. 8th.

"Whereas, interest in our Society may be increased by a more frequent knowledge imparted to the membership at large as to our activities.

"Now, Therefore, BE IT RESOLVED that each major officer, vice president, director and chairman of a standing committee be requested and expected to make a report on or before December 1st, March 1st and June 1st relative to happenings within their knowledge and that such reports shall be brought together and be printed or mimeographed and mailed to each member."

Resolution No. 3.

"Whereas, the American Standards Association investigates and correlates all standards proposed by its membership and

"Whereas, this association embraces within its membership practically all the engineering and much of the important commercial activities of the U. S., and

"Whereas, the major departments of our government are members, and

"Whereas, its functions are recognized in communities with both national and international standards, and

"Whereas, the standing and usefulness of our society would be enhanced by membership therein, and

"Whereas, our president recommends and board of directors concurs, that we should be members.

"Now, Therefore, BE IT RESOLVED that the incoming officers be and are hereby authorized to complete membership in the American Standards Association as a member body thereof at an expense of $500.00 per annum with one delegate."

Resolution No. 4.

Offered by President McGonegal per his report of Sept. 8th.

"Whereas, besides sustaining the interest and support of present membership, the constant addition of new members is the life blood of all associations, and

"Whereas, systematic and well directed effort is essential to such progress.

"Now, Therefore, BE IT RESOLVED that the expenditure of not to exceed $200.00 during the next fiscal year, by the membership committee, to perfect and follow up a prospect list, be approved."

Resolution No. 5.

"Whereas, Resolution No. 7 as adopted at the 1930 meeting of the A. S. S. E. may be considered as affecting oil dip on soil pipe and fittings.

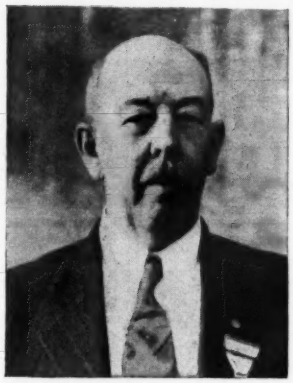
George Stolz, Milwaukee, first vice president; William D. Hobro, San Francisco, second vice president, and Luke J. Devine, Elizabeth, N. J., third vice president

"BE IT HEREBY RESOLVED that such resolution does not affect the practice of oil dip on soil pipe and fittings."

Resolution No. 6.

Offered by President McGonegal, report of Sept. 8.

"Whereas, as an essential matter in the saving of expense it has been expedient to continue two years reports in our so-called Year Book publications, and



A. R. McGonegal, Washington, D. C., retiring president

"Whereas, in any event a considerable time is necessary to properly compile the papers and discussions.

"Now, Therefore, BE IT RESOLVED that Resolutions Nos. 6, 7 and 8 as today modified, as adopted at the 1930 meeting in Winnipeg, together with all Resolutions concerning commercial standards or directly affecting our trade and industry and which are adopted at this 1931 annual meeting, be printed or mimeographed and mailed to all members within 30 days."

Resolution No. 7.

"Whereas, the Department of Commerce of the United States embraces a Bureau of Standards which is actively engaged, both in establishing commercial standards and in simplifying trade practice, and

"Whereas, it is wise and expedient to keep our society in active touch with trade activities and when consistently possible to co-operate with said Bureau, and

"Whereas, certain activities of the Bureau of Standards in connection with the commercial standards require that after the committees have developed a proper standard that the same shall be approved for promulgation, such approval being frequently withheld a few weeks, and

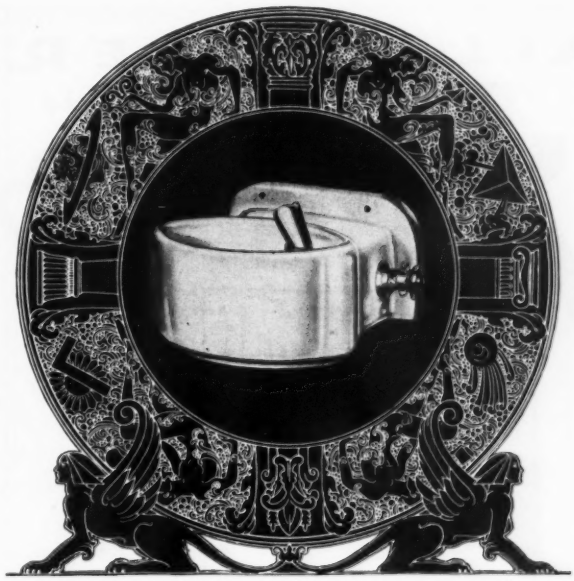
James Smith, of Winnipeg, Can., fifth vice president

"Whereas, many of the proposed standards have no direct bearing on the technology of sanitation, a point in hand being the recent proposal to adopt six standard colors for sanitary ware.

"Now, Therefore, BE IT RESOLVED that the president of our society be and is hereby authorized to accept, in the name of the society, any commercial standards, exclusively, which are proposed by the Bureau of Standards of the United States of America, and which in our president's judgment could not, in fairness, be the subject of controversy by our membership."

Resolution No. 8.

"Whereas, His Excellency Governor John Garland



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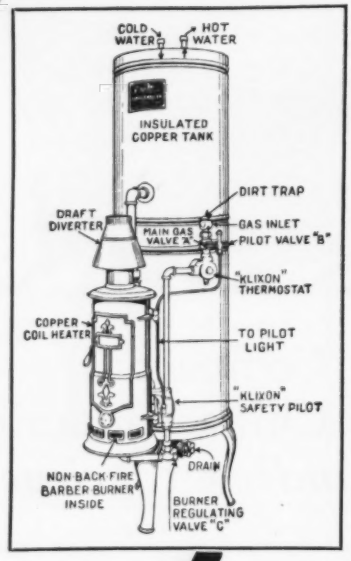
The ALL COPPER Packo



The Copper Tank of the "Packo" is Built to Last, Not to Rust!

Owners of "Packo" Storage Systems do not have to worry about the costly corrosive effects of rust, for the All-Copper 300 lb. test inner tank of "Packo" Systems cannot rust. The coils of the gas heater are of copper and all water connections are of brass or copper. Truly, the rust-proof "Packo" should give you unfailing clean, rustless hot-water service for years and years!

Automatic Safety Pilot Light

All "Packo" Systems are now regularly furnished with "Klixon" Automatic Safety Pilot, which immediately shuts off the main gas supply, if the pilot light should ever go out!

The "Packo" is so simply constructed that its operation is readily understood. There are no complicated or hidden parts. Everything is right out in the open. The systems are well crated for shipment and there are only three connections necessary for installing—hot water, cold water and gas supply.

The exterior is finished in attractive color scheme, making the "Packo" suitable for installation in the kitchen as well as in the cellar, yet the cost of the "Packo" is within reach of the average home owner, due to large production economies.

Sizes 20 gallons to 100 gallons, inclusive. For prices and literature, write your wholesaler.

◆

All sizes of Packos have been tested and approved by the American Gas Association Testing Laboratory.

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RIVERSIDE BOILER WORKS, INC.
Manufacturers of
Tanks for the American Home
CAMBRIDGE, MASS., U.S.A.

RIVERSIDE

Pollard, Honorable Mayor J. Fulmer Bright and Director of Public Safety Foster have extended a cordial and kindly welcome on behalf of the sovereign State of Virginia and the splendid City of Richmond, and

"Whereas, our fondest expectations have been realized through the efficient co-operation of the local committee, Mr. Thomas F. Landers, chairman, and the ladies of this city, bless them, the Virginia plumbing and heating contractors, the City Council of Richmond, the local and trade press and the committee who arranged the moving picture program, and to all those who gave time and effort in the presentation of papers,

"Therefore, BE IT RESOLVED that we, in convention assembled, gratefully express our deep and sincere appreciation."

Thomas J. Lee, Pittsburgh, re-elected member of board of directors

The main address of welcome was delivered by Governor John Garland Pollard, of Virginia, who indicated that the society and its members, through their efforts to promote sanitation, are doing a work which is greater than anything except perhaps the education of the youth of the country. He stated, "I believe if we look at it solely from a financial standpoint we would find that the benefits you bring us are greater than the benefits we get from any other investment. The largest tax which burdens humanity today is the disease tax which is levied by our failure to take steps which will prevent the spread of disease."

The second address of welcome, made by Mayor J. Fulmer Bright, of Richmond, contained the following statement: "Today, one of the great advances of the times, an advance that has added most to the comfort of

John Heinkel, Rock Island, Ill., president, Blake Specialty Co.; H. J. Long, New Brunswick, N. J., president, Kompak Co.; W. Keith McAfee, New Castle, Pa., president, Universal Sanitary Mfg. Co.

human life, is the advance in sanitary engineering. Upon it depends both comfort and health."

After the introduction of the president, A. R. McGonegal, the business of the opening session was concluded with the appointment of the several convention committees, which are as follows: Press Committee: James Smith, Norman Boosey, and Thomas J. Manahan. Resolutions Committee: L. A. Cornelius, T. G. English, J. J. Crotty, J. Smith, J. A. Bronzonie. Nominating Committee: J. J. Crotty, W. C. Groeniger, J. R. Walker, L. J. Devine, C. I. Henderson. Con-

vention City: G. J. Dehn, W. D. Hobro, W. H. Smith, H. W. Hammersla, U. J. Shilling. Auditing Committee: T. J. Lee, C. I. Henderson, G. Stolz. Memorial Committee: G. B. Barron, J. H. Lutz, Jr., J. Hirshstein. Registration Law Committee: W. C. Groeniger, F. R. King, W. Potter. Boy Scout Manual Committee: J. J. Crotty, L. J. Devine, H. W. Hammersla. Reading clerk: E. L. Groeniger. Marshal, W. Meehan.

The first afternoon's session was given over to the reports of the various officers as well as to the presentation of several papers. Thos. M. Dugan, as the secretary, reported that 58 members, seven of whom are sustaining members, were admitted into the society. The librarian's report, submitted by J. R. Walker, stated that a brief index had been prepared covering the issues of the society's year books up to date.

L. A. Cornelius, Grand Rapids, Mich., president, Wolverine Brass Works

One of the most interesting discussions of the entire convention was led by H. J. Long, of New Brunswick, N. J. His subject was the stratification of heated water, and he prepared a demonstration which clearly showed how water, at various temperatures, will stratify. The application which he established is in connection with domestic water heaters and range boilers. He had a vertical panel which was about 3 ft. high and 4 ft. long. On this he mounted several models of typical domestic water heating layouts. These models were made of glass. The cold water supply was colored red, without changing the density of the liquid. The hot water was clear and colorless. The purpose of the demonstration was to show what takes place in a domestic hot water supply system after a body of water is heated, both when the water is being drawn off and when the water is held for use in the tank. The first demonstration was in connection with a range boiler, having a side arm heater. The heating coil was made of glass tubing and the demonstration was started with all of the water in the system heated. A certain amount of hot water was drawn off and the red cold water was taken into the system and into the bottom of the tank. The stratification of the hot and cold water was very clearly marked. There was almost no mixing of the two. Heat from the flame of an alcohol lamp was applied to the coil.

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NOTE THE SLOPE!

Dead Coals Fall Away Increasing Draft.

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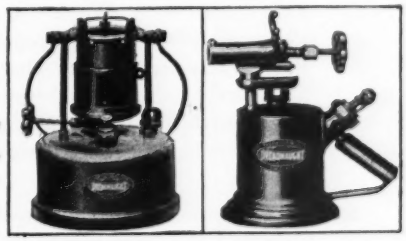

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UNITED HOTELS

Circulation in the system was started, and the cold red water circulated from the bottom of the range boiler, through the heating coil and thence to the top of the range boiler. All of the red water was delivered to the top of the boiler in this way.

It was assumed that the storage tank was insulated and in order to approximate actual conditions the heater coil and piping was cooled rapidly. Immediately the hot red water at the top of the tank circulated back through the piping and heating coil and into the bottom of the range boiler, where it mixed with incoming cold water as the hot water supply was drawn off.

William C. Groeniger, Columbus, Ohio, chairman of research committee

Mr. Long pointed out that this is one of the causes of difficulty experienced in maintaining hot water in many domestic hot water supply systems. Obviously, the correction lies in insulating or arranging the piping and the heating coil so that they will not cool at a greater rate than the remainder of the system. This also brought out the advisability of installing the heating unit at a point lower than the bottom of the tank. The demonstration was extended to show the action of a domestic hot water heating system when these provisions were made.

In addition, Mr. Long told of some of his experiences in solving domestic hot water trouble jobs. One job had to do with a horizontal tank installation where it was impossible for the owner to obtain a supply of hot water for any length of time. When he started in the morning, he had a tank full of water heated to the desired temperature, but in a very short time it ran cool and for the remainder of the day it was impossible for him to get any but lukewarm water. He inspected the job and found that the piping was perfect, and everything about it was as it should be, from all appearances. He went further, however, and investigated the piping inside of the storage tank. He found that the cold water supply which entered the bottom of the tank pointed up into the tank instead of being provided with a deflector. By tests he found that, immediately upon drawing hot water, the cold water, under city pressure, was forced into the tank and acted more or less like a fountain, spouting up and mixing with the heated water after striking the top of the tank. The result was that after drawing off a comparatively small amount of hot water, the cold water supply mixed with the heated water to produce lukewarm water. The solution, of course, was to provide a deflector at the outlet of the cold water supply pipe in the tank, so that the cold water would not spout up into the hot water zone.

Mr. Long's demonstration equipment was arranged to include a model of a horizontal range boiler and the customary heating coil and piping. To prove that cold water will spout up into the hot water zones, he allowed the red cold water to enter the horizontal tank through

a vertical connection in the bottom which was not deflected. The entire supply of cold red water was forced to the top of the tank, and in settling to the bottom it spread throughout all of the heated water and cooled it.

The demonstration was carried further to show that when the water is permitted to enter the bottom of the tank without force, or when it is directed by means of horizontal deflectors, it will stratify at the bottom with very little or no mixing.

Robert J. Barrett, Washington, D. C., Halson director

Mr. Long pointed out that the natural conclusions drawn in the case of these trouble jobs are that the equipment installed is not adequate. In correcting difficulties, he has shown that in most cases the equipment installed is more than adequate when the natural laws of circulation are applied and used to assist rather than hinder the operation of the system.

At the end of Mr. Long's discussion, the subject changed to that of protecting range boilers from excessive pressures and excessive temperatures. Although it was pointed out that a part of a future session was reserved for this subject, a considerable amount of attention was given to it. It was pointed out that when water is heated under pressure the temperature may rise above the normal boiling point of 212 deg. Fahr. Also, the fact that it is possible to draw off steam at the faucet under these conditions does not mean that steam is stored in the range boiler.

Joseph J. Crotty, New York City, president of Central Foundry Co., and member of board of directors

For a clear understanding of the subject, it should be remembered that at atmospheric pressure, which means an absolute pressure of 14½ lb. per sq. inch, the boiling point of water is 212 deg. Fahr. As this pressure is increased, the boiling point or the temperature to which the confined water may be raised is increased. Accordingly, if the temperature of the water in the tank is raised to, say, 350 deg. Fahr., through an increase in pressure and continued heating, the contents of the tank may still be in a liquid state. However, when the faucet is opened the pressure at the faucet drops immediately to atmospheric pressure, the temperature of the water is still 350 deg. Fahr., which is 138 deg. above the boiling point of water at atmospheric pressure, and the water immediately bursts into superheated steam at the faucet. When tanks explode under these conditions, the intensity of the explosion depends upon the pressure within the tank and the temperature of the water immediately upon explosion.

(To be Concluded)

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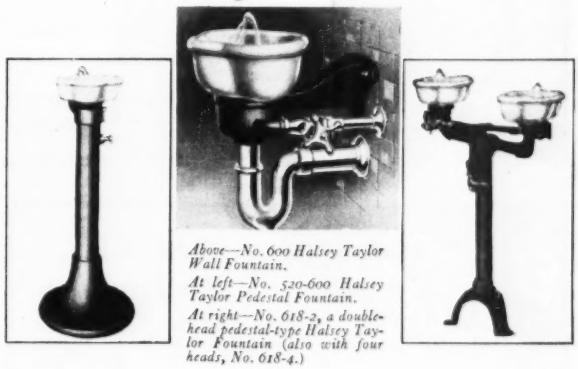

Above—No. 600 Halsey Taylor Wall Fountain.
At left—No. 520-600 Halsey Taylor Pedestal Fountain.
At right—No. 618-2, a double-head pedestal-type Halsey Taylor Fountain (also with four heads, No. 618-4.)

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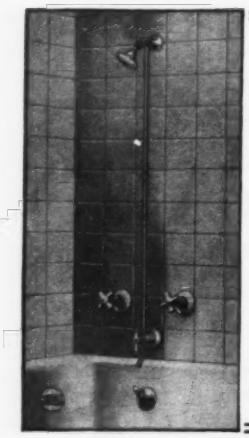

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Gas Enters House Cooling and Air Conditioning Field

(Continued from Page 43)

ing which that company is now erecting. As a result of this investigation arrangements have been completed for a similar installation, with modifications, in the Dallas Gas building.

Below is given a description of the installations that are being made in the test dwellings. A description of the installation being made in the general office building of the Dallas Gas Co. is also given.

Description of Gas Operated Household Air Conditioning Units Developed for Committee on Industrial Gas Research for Use in Three Test Houses

The Silica Gel gas system for household air conditioning may be said to consist of two essential parts. The first of these is the Silica Gel adsorption unit to accomplish the dehumidification of the air, and the second is the recirculation and cooling system.

The adsorption unit comprises two adsorbers, a gas operated furnace, an adsorption fan, an activation fan, an after-cooler, a fresh air filter, a gel cooler and necessary dampers, controls, etc. While one adsorber is being used to dry the air, the other is being activated and cooled. This process is carried out alternately and automatically, being timed by an electric clock.

The adsorption fan draws fresh air through the filter and delivers it to one of the adsorbers, where the moisture is removed by the gel. The heat of adsorption which is generated when the water vapor is condensed in the gel is now removed in the after-cooler and the dry air is delivered to the main air stream in the recirculation and cooling system. During this time (normally one hour) the other adsorber is being activated. The hot products of combustion from the gas operated furnace are mixed with sufficient auxiliary air to give a temperature of about 300 deg. F. and this mixture is drawn through the moisture saturated gel by means of the activation fan and exhausted to the outside atmosphere. This, of course, drives the moisture from the gel, which must then be cooled before being placed in service once more. A damper shifts and the furnace shuts down. The fan now recirculates air through the hot gel and the gel cooler. The heat is removed by water circulation in the coils of the gel cooler, and, when the gel is cooled, it is again ready for service.

The cycle is, of course, controlled automatically. One small toggle switch is placed conveniently on the first floor. When this is closed, the two motors start, the water is turned on and the unit continues to run until the switch is again turned off. The unit is entirely self-contained and presents a neat appearance. So much for the dehumidification equipment.

It will be appreciated that a large flow of air is needed to properly ventilate and cool the house and this is supplied by means of the recirculation system consisting of the supply and return ducts, the main air filter, the main fan and the main cooler. These are connected direct to the furnace by means of appropriate ducts. The air is drawn from the house through the return ducts and is mixed with the very dry air from the silica gel adsorption unit. The mixture then having the proper moisture

content for comfort is drawn through the filter and thoroughly cleaned. The air then passes through the main cooler, where it is cooled to the proper temperature, and is then delivered to the head of the furnace, where it is distributed in the various supply ducts to the rooms of the house, the same as warm, moist air is distributed in the winter. The cooler is of the indirect type, water being circulated through tubes, and the air in passing over the tubes gives up its heat to the water. An alternate method of cooling is by means of a gas refrigerator and coils. A second toggle switch is placed on the first floor to turn the main fan off or on as desired. Thus the two functions of drying and cooling are done entirely independently of each other and either one or both may be used at the pleasure of the householder. Proper relays and safety devices are employed to make the equipment foolproof. It is designed to provide moderate temperature differences from outside to inside, say 85 deg. F. on a 95 deg. F. day. This will avoid chilling of the occupants, but the relative humidity will be kept below 50 per cent to insure perfect comfort.

Description of Air Conditioning System for New Building of the Dallas Gas Company

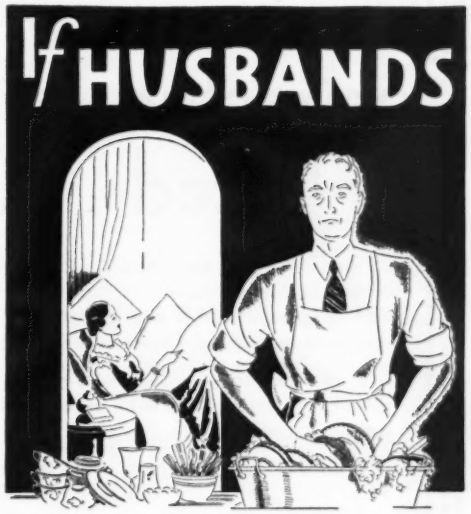
The system will dehumidify and cool through separate operations, and as designed, will maintain the following differential to outside conditions as indicated in the offices, first floor and basement, of the Dallas Gas Company building, Dallas, Texas.

—*Outside*— Degrees F.		—*Inside*— Degrees F.	
Dry Bulb	Wet Bulb	Dry Bulb	Relative Humidity Per Cent
100°	80°	88°	35
90°	75°	83°	35
85°	75°	80°	40
80°	71°	77°	50
75°	67°	75°	60

The system will supply 18,000 cu. ft. M of conditioned air to the first floor area and 5,300 cu. ft. M to the basement area. The distribution equipment includes a dry type filter through which all return and fresh air is passed, a single supply fan beyond which the two supply systems are segregated to pass through a total of 1,955 sq. ft. of indirect cooling surface, 1,612 sq. ft. for first floor and 343 sq. ft. for basement areas. Fresh air is supplied at the rate of 20 cu. ft. M per person. However, only that amount representing the difference between the $20 \times 180 = 3{,}600$ cu. ft. M thus required and the total infiltration will be positively supplied. For example, on a day when the infiltration totals 1,060 cu. ft. M, 2,540 cu. ft. M would be drawn in through the fresh air inlet.

The latent heat load requires a 3,000 cu. ft. M gel unit containing a total of 3,000 pounds of silica gel. The equivalent tonnage of this unit when operating between 78 deg. wet bulb and 53.5 deg. wet bulb is 20.3 tons. The unit is so located in the system as to operate on a mixture of return and fresh air, or, in case the infiltration on any one day is sufficient to meet the fresh air requirements, on return air only.

The sensible heat load on the job will be taken care



had to do the dishes

they would not put up with the fuss and muss of doing dishes by hand any longer than it would take you to install a

CONOVER *Electric*
DISHWASHER SINK
Washes, Rinses, Dries and is Self Cleansing

Sink Model Conover

The Conover dishwasher-sink combination has many unique features. Large capacity—rubber plated dishracks. Measures water automatically and discharges it electrically. Replaces ordinary sink. Requires only one trap at usual height, and is free from back drainage. Makes dishwasher sales that "stick."

Sink model CONOVERS sold only by master plumbers, supplied by accredited plumbing wholesalers. Portable CONOVERS require no installation; sold exclusively by leading department stores, electric light companies and other electrical dealers.

Send coupon for further information

The Conover Company
General Offices
Dept. K-9, 140 So. Dearborn St.
CHICAGO, ILL.

MAIL THIS COUPON

(K-9)
Please send your illustrated catalog, "Making the home kitchen MODERN with the Conover Electric Dishwasher Sink," and full information.

Firm name.....
Address.....
My name..... Title.....

Contractor Wanted . . .

We have a new and unusual proposition to make to one heating contractor in each town—a proposition which will enable him to get away from price competition and make some real money.

If you want to see your profits go up, *up*, UP—in spite of the times—then write us for particulars about our special proposition.

Now don't say you have heard that before. Not many years ago you would have said it was impossible to fly across the Atlantic. Frequently all experiences are upset—and that happens to be the case now.

But you must act quickly if you don't want your neighbor to get it. Write us today. Tomorrow may be too late.

SARCO COMPANY, Inc.
183 Madison Ave., New York, N. Y.
Branches in Principal Cities

"DAHLQUIST"
COPPER BOILERS
Standard for Comparison

Gas Side-Arm

Industrial copper boiler requirements are daily growing more exacting. Values are being compared now more than ever before.

Take advantage of Dahlquist's many years of experience in designing and fabricating heavy pressure boilers and automatic household ranges at attractive prices.

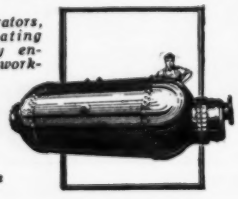
The Turbo-Aquatherm

Through the invention of the Dahlquist Turbo-Aquatherm the household hot water supply can now be as clean and fresh as the cold water. No more rusty or dirty hot water.

Automatic Electric

The Turbo-Aquatherm automatically prevents the accumulation of sediment, prevents any danger of burn-outs as well as increasing the thermal efficiency of the unit.

Real estate operators, architects and heating engineers may rely entirely on Dahlquist workmanship and experience whether for range boilers automatic storage boilers or heavy pressure boilers.



Write for complete information

Dahlquist Mfg. Co.
60 West 3rd Street So. Boston, Mass

of by standard compression refrigeration using cold water in the indirect surface mentioned in the preceding paragraph. This cold water will be circulated in a closed system through a heat exchanger containing the expansion coils. The standard condition tonnage of the compressor is 15.5 tons.

The relative percentage of sensible heat to latent heat is:

	Tons	Per cent
Latent heat, Silica Gel dehydration....	20.3	56.7
Sensible heat, ammonia refrigeration.	15.5	43.3
Total effect of installation.....	35.8	100

California Electrical Group Proves Merchants' Ability to Match Selling Effort of Utility

(Continued from Page 44)

tions, in a good year, the power company, with years of experience behind it, would probably have sold about 150 ranges during the same period.

The present business conditions have, without question, retarded our sales volume. Recently we made a careful investigation of the economic situation influencing range sales in the City of Long Beach and found the following conditions as compared with the same period one year ago.

Seventy-five per cent decline in gas range sales by hardware and department stores. 42% decline in permits for electrical outlets issued by Long Beach Electrical Inspector. 42% decline in electric range sales in all Southern California. Substantial decline in the volume of most local business.

The City of Long Beach has a municipally owned gas distributing system with an abundance of natural gas from wells owned by the City, which is sold at a very low rate. This creates considerable resistance to a sale of electric ranges in this community.

During the first three months of the campaign much time was spent in negotiation to secure better co-operation and support from the manufacturers and power company. During the past three months this has been more freely given.

The Edison Company placed one of its range salesmen in the territory for two months, to teach dealers how to sell ranges. He organized and conducted cooking schools for the dealers and their salesmen, teaching them how to cook with electricity and instructing them in methods of selling electric cookery to the public. One range manufacturer co-operated splendidly with this salesman in this activity, furnishing him supplies and a demonstrator. As a result of this school several dealers installed electric ranges in their own homes and are now very enthusiastic about them.

In this experiment of ours we have made some mistakes, which we freely admit, and learned some lessons which we do not hesitate to set forth.

First, against the advice of the power company, we inaugurated an expensive newspaper advertising campaign, thinking that it would produce easy sales. We soon learned that newspaper advertising alone will not sell electric ranges.

Second, the campaign was started before we had an

Left to right: Joseph H. Volk; George J. Stoehr, local president; Mrs. George J. Stoehr and Mrs. Joseph H. Volk, all of Milwaukee, Wis. Photos taken at the annual convention of the Heating and Piping Contractors' National Association, held recently at Louisville

organized and trained competent sales force, depending upon the existing personnel of our organizations to learn how to do the job without special training. This is a specialty and requires specialty salesmen, properly trained.

Third, when a power company with a good sales organization turns the business over to the merchants, sales volume suffers because of the lack of a local sales manager to co-ordinate the plans and efforts of the dealers who are all trying to do the same job.

Fourth, the present margins on electric ranges are so small that the dealer cannot afford to spend enough money to promote them properly. The sales expense is very large and the margin of profit is very small. Dealers cannot afford the huge promotional funds spent by the power companies. The dealer's entire profit in a range transaction must come from the range itself. To market electric ranges successfully he needs a larger margin than the power company works on.

In conclusion, we believe that all other things being equal, the dealers can do just as good a job as the power company organizations. The dealers are usually closer to the public. This is especially so under our local conditions, because we have the electrical, hardware, furniture and department store groups co-operating. When such a combination of merchants is properly convinced of the merits of electric ranges, it should be possible for them to excel any previous records established by power companies because of the close relations between them and the customers whom they regularly carry on their books; and also because of the enormous store traffic of potential buyers, which they enjoy.

Dealer merchandising, we believe, will produce just as good results as former methods.

◆

Death of Matthew F. Schmitz

Matthew F. Schmitz, master plumber of Madison, Wis., for 30 years, died at his home of heart trouble on Saturday, August 8. Mr. Schmitz had lived in Madison all his life, and was in his 53rd year. He is survived by his widow, Mrs. Delia Schmitz, two sons, Frank and Robert, and one daughter, Eleanor.

◆

Rochester, Minn., Adopts License Law

A plumbing ordinance has been adopted by the city council of Rochester, Minn., requiring all Rochester plumbers to be licensed and bonded. Licenses will cost $25 each, and each applicant must post a bond of $1,000. License application blanks are being issued by Don E. Postier, city building, electric and plumbing inspector.

ATTENTION PLEASE, MR. ENGINEER!

You, as an experienced Engineer, can judge and decide problems of temperature to solidify fat.

Only **Water Cooling** Grease Separator and Catch Basins will **chill** the **water,** congeal and retain the grease.

Our more than thirty years' experience originating and designing Modern Sanitary Appliances is your assurance of satisfaction.

Use our Catalog to obtain first hand and reliable information.

Compound Injector & Specialty Co.
George J. Dehn, S. E., President
THE PIONEERS—(*Established 1897*)
Originators, Designers and Sole Manufacturers

DEHNSANIGARD
THE QUALITY GOODS
Trade Mark Registered U. S. Pat. Office
419-421 N. Laramie Ave. Chicago, Ill., U. S. A.

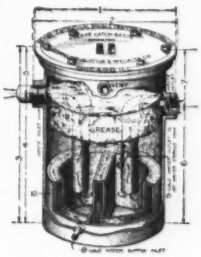
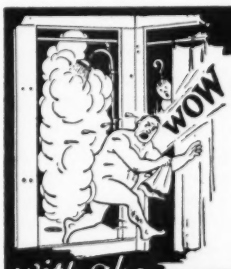


Fig. No. 150
(Patented and Patents Pending)

Dehn's "**Centrifugal**" Double Trapped Water Cooling Grease Catch Basin, tested 250 pounds cold water pressure.



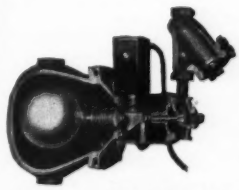
Stop this!

Eliminate those unexpected "shots" of hot and cold water in shower baths. Stop the time wasted in trying to get water at the right temperature. Install Powers Mixers. Write for 20-page book.

THE POWERS REGULATOR CO.
2716 Greenview Ave., Chicago
Offices in 37 Cities

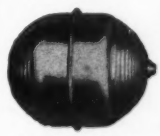
with The
POWERS
SHOWER MIXER

Don't tell 'em to forget « « « «
and then ask 'em to remember!



When a man pays for automatic heat, he buys the right to forget his boiler room. He can do this if his oil-burner, stoker or gas burner is protected by a McDonnell No. 30 Series Safety Feeder with No. 31 Emergency Switch. There is a size for every type and size of boiler—and a good profit in every job.

McDONNELL & MILLER
400 N. MICHIGAN AVENUE, CHICAGO
Eastern Office: Grand Central Terminal, New York, N. Y.



4'x5' Oval Float

NO-SOL COPPER FLOATS

No-Sol Floats incorporate all features necessary to the satisfactory performance of a tank float.

Each float is individually tested and guaranteed.

INCORPORATED 1907
The AYLING & REICHERT CO.
3047 N. Erie St. Toledo, Ohio

5' Round Float

What Women Are Doing

EVERY grown-up likes to tell the youngsters that school days are the happiest of all. But I wonder how many of these grown-ups would put up with the hand washing facilities which are so surprisingly inadequate in so many schools.

PAILS resting on cloak room benches; water slowly heated on an ancient heating stove; soap and towels brought by the children themselves; a milk bottle to pour a bit of hot water over each pair of outstretched hands—all of this would soon give way to real sanitary conveniences if these grown-ups had to go back to school again.

ALMOST every youngster goes through a stage where washing his face or hands is done only when his parents require it. An inspection in school hand washing facilities shows that this childish instinct is encouraged rather than discouraged by the barricades put in his way. Standing in line to get to a single faucet would dampen any one's enthusiasm.

ALL of this touches on a topic close to the heart of every reader of this department. I know you must have found, as I did, something that was interesting and much that was disturbing in the report published in our last week's issue (page 38, September 5), telling of the study of hand washing facilities in American schools made by the Cleanliness Institute.

JUST now many women are getting to the schools to see that their youngsters are properly enrolled. It would be a good thing to see whether the school also provides means to permit the children to wash properly.

Mansfield, Ohio, Auxiliary Entertains With Picnic

Members of the Mansfield, Ohio, Women's Auxiliary entertained their husbands and families at a camp supper on August 27th, the regular meeting day. The outing took place at North Lake park. Mesdames Antrican, Marlow and Arting were those in charge and proved capable in the line of cooking. A social hour was enjoyed after a short business session. The families of the master plumbers were guests at a picnic on August 1 at Sugar Grove Lake park.

The next regular meeting will be at the home of Mrs. Homer Frye on Marion avenue on the last Thursday in September.

Entertains Chicago Group at Summer Home

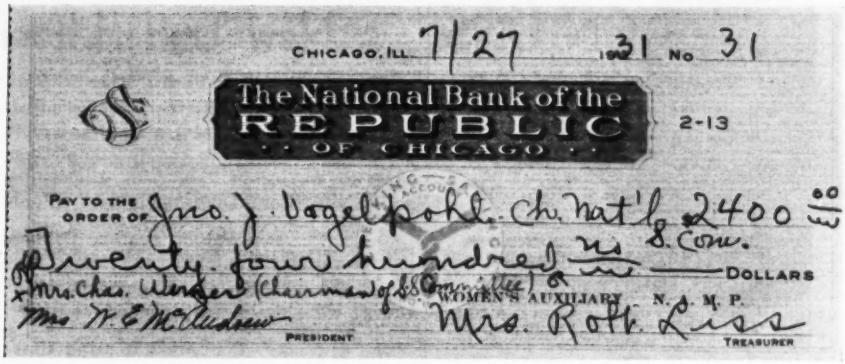
The members of the North and Northwest Women's Auxiliary of Chicago were the guests of Mrs. Frank Pearson at her summer home on Long Lake, Illinois, on July 31.

The day was spent in swimming and playing cards. The large number in attendance included: Mesdames W. Blythe; R. Nelson; J. A. Kuhnlein; C. Baumgarten and daughter, Gertrude; M. Blair; H. H. Diedesch; F. Grosch; W. G. Kalb; Robert Liss, L. P. Markowski; G. H. Matthews; M. Sauser, and her two sons and mother; E. C. Wagner; Rupert J. Weber; E. Dwyer; Lewis Nelson; Mr. and Mrs. A. W. Bahn; Mr. and Mrs. W. E. Bahn; Mr. and Mrs. P. Feltmann; Mr. and Mrs. Frank Pearson; and Mr. and Mrs. J. Scheuer.

Gives Homes to Girl Scouts

A unique home has been presented to the Girl Scouts by Miss Marie Kohler, in memory of her father, J. M. Kohler, founder of Kohler Co., Kohler, Wis.

Mr. Kohler's home had been in Vorarlberg, Austria, and the home just completed faithfully reproduces the architecture which for centuries has been peculiar to the picturesque Bregenzerwald, near Lake Constance, in Austria. It is built of squared fir timbers set in moss and stained to a weathered appearance. Many of the furnishings are originals brought to America and are hundreds of years old. Kasper Albrecht, noted Austrian architect and sculptor, designed the building.


CHICAGO, ILL. 7/27 1931 No 31

The National Bank of the REPUBLIC OF CHICAGO 2-13

PAY TO THE ORDER OF Jno. J. Vogelpohl. Ch. Nat'l Com. $2400 00

Twenty four hundred ——— DOLLARS

Mrs. Chas. Werner (Chairman of Committee) WOMEN'S AUXILIARY N. J. M. P.

Mrs W. E. McAndrew PRESIDENT Mrs. Roth. Liss TREASURER

National Auxiliary Completes Scholarship Fund

The following letter from Mrs. W. E. McAndrew, Tampa, Fla., past national president, will interest all auxiliary members.

"The Past Presidents Scholarship was recommended by Mrs. E. D. Hornbrook, voted and carried at the National convention held in Buffalo in 1929. During the first year, $1715 of this amount was raised and at Boston in 1930 the National auxiliary voted to place this amount in government bonds until the required amount was complete.

During the past year, under the capable chairmanship of Mrs. Charles Werner, Jersey City, N. J., this scholarship was oversubscribed. At the convention in Milwaukee the assembly voted to again place this money in government bonds until such a time as the scholarship committee had selected a boy for this scholarship. Accordingly, at the close of the convention we were informed by Mr. Vogelpohl, chairman of this committee, that the boy who had been selected was Owen A. Kennedy of South Fort Mitchell, Ky.

The check in full, $2,400, reproduced on this page, was mailed to Mr. Vogelpohl by our past national treasurer, Mrs. Robert Liss in July. I am indeed happy that this scholarship could be completed during the year I served as president of the auxiliary and it is real satisfaction to know that the great work is done and the past president scholarship a reality."

(Signed) Mabel McAndrew.

Above is a photograph of check for $2,400 mailed to John J. Vogelpohl of Cincinnati, Ohio, chairman of the N. A. M. P. scholarship committee, by the Women's Auxiliary to the N. A. M. P. With the payment of this sum the auxiliary completed its scholarship fund

ROBERTSON

Easy Foot Waste

Constructed without intricate working parts in the overflow or waste tubes, thereby eliminating any possibility of becoming clogged and getting out of order. This construction permits the water to drain out of large waste opening *quickly*. The Easy Foot Waste Plug or outlet is so designed that it creates a swirling motion to the water which is most effective in cleaning the waste. It closes with pressure—insuring against leaking.

Eliminates unsightly and unsanitary chain and stopper.

No bending or stooping necessary to operate. Simply touch it with the toe.

Send for your sample today

H. H. ROBERTSON COMPANY
2333 N. Ashland Ave. Chicago, Illinois

Review the Housetops! NOW!

Line up the housetops in your community for annual roof flashing inspection. Now is the time to make roof repairs, before the Fall rains and the Winter snows.

Replace the old flashings, the loose ones and the leaky ones with Oatey 4 in 1 Flashings, the flashings that go on in a jiffy and stay on for a long, long time.

Be sure to specify Oatey Flashings from your jobber.

The L. R. OATEY CO.
5300 Walworth Ave.
CLEVELAND, OHIO

DART UNIONS

2 BRONZE SEATS

2 BRONZE SEATS

The saying "good workmen use good tools" is old-fashioned all right, but as truthful today as the first time the statement was made.

And in unions you must use a good union if you are to be satisfied with your installations . . . and a DART UNION is that union.

E. M. DART MFG. CO., Providence, R. I.
The Fairbanks Company, Sales Agents
Canadian Factory, Dart Union Company, Ltd., Toronto, Canada

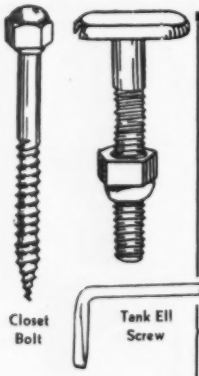
REPRESENTATIVES WANTED

An exceptional opportunity is offered manufacturers' agents, live heating contractors and heating sales firms, in REZNOR AUTOMATIC GAS FIRED WARM AIR HEATING APPLIANCES.

The finest line of modern, fully engineered equipment ever offered the trade—for any requirement from an office to an airplane hangar! Write us today for complete information.

Gas Heating Appliances REZNOR for Forty Years

REZNOR MFG. COMPANY » « Mercer, Pa.



Stock up Now!

HINDLEY
Specialty Equipment

Check over your stock of Hindley Specialties NOW. If it is low it will pay you well to replenish it. The Hindley Line is complete. Whatever you need is included in our catalog. **Write for it.**

HINDLEY MFG. CO.
Valley Falls :: R. I.

Josam TRADE MARK REG. U.S. PAT. OFF.
PRODUCTS
APPROVED SANITARY SPECIALTIES
JOSAM MANUFACTURING COMPANY
4904 Euclid Bldg. Cleveland, Ohio
FACTORY: MICHIGAN CITY, INDIANA
BRANCHES IN ALL PRINCIPAL CITIES
Floor and Roof Drains, Sewer Valves, Closet Outlet Connections, Interceptors, etc.

New Trade Literature

Pierce, Butler & Pierce Mfg. Corp.'s New Catalog

Pierce, Butler & Pierce Mfg. Corp. of New York City has issued a new catalog of its boilers and raditaors, packless valves, gages and thermometers. The book also contains numerous tables of dimensions and capacities which will prove both handy and valuable.

Waterproof Sealing Compound

The Quigley Company, Inc., New York City, has prepared for distribution an envelope stuffer describing its line of waterproof sealing compound.

Concealed Heating Unit

National Radiator Corp., Johnstown, Pa., has just issued a four-page folder, 8½ x 11 in. in size, illustrating and describing its new concealed heating unit designed to heat by convection. The folder is printed in several colors and the device is described in detail.

Folder of Spencer Heater Co.

Spencer Heater Company, Williamsport, Pa., has just issued a four-page folder describing three additions to its line of automatic heating products. In the center of the folder is a photograph and description of the company's new combination boiler, designed to burn coal, coke or gas. Other products described in the folder are a rotary ash tray and a heavy duty steel tank heater.

Issues Pamphlet on Automatic Stokers

The Breeding Coal Stoker Corp., Cincinnati, Ohio, has issued a pamphlet giving a complete description of its various sizes of automatic coal stokers. Construction details and a table of specifications is given on the back page. The unit is shown in two large photographs, and several pictures of buildings where installations have been made are also included.

Pamphlet on Relief Valves

A pamphlet has been issued by Watts Regulator Co., Lawrence, Mass., describing the various types of relief valves of its manufacture. The pamphlet gives complete information on the construction of the valves.

Pamphlet of F. E. Myers & Bro. Co.

The F. E. Myers & Bro. Co., Ashland, Ohio, has issued a pamphlet which contains descriptive material on the new double acting working barrel of its manufacture. The pamphlet tells just how the unit operates, how it is installed and how it is constructed.

Pamphlet on Unit Heater

The Stanwood Corp., Cincinnati, Ohio, has issued a pamphlet describing the gas-fired unit heater of its manufacture, designed for factories, airplane hangars, garages, warehouses, etc.

Booklets of General Electric Co.

The General Electric Company, Schenectady, N. Y., has recently issued a number of booklets and pamphlets describing certain of its products that are used by the plumbing and heating industry. "Arc Welding in Industry" is the title of one of the booklets. This contains 42 pages, with many photographs illustrative of the various ways that arc welding is used by industry. In this booklet and in another one just released, the company's line of arc welding equipment is completely described. The company has also issued several small pamphlets which describe its line of synchronous motors, enclosed fan-cooled single-phase motors, low-speed synchronous motors, float switches for use with automatic pumping equipments for water-level control, magnetic switches, blast gates for low-pressure air and gas systems, and mechanical-drive turbines.

Large Construction Projects

Even though new construction is at a low ebb compared with recent peak years, the fact remains that new projects are being started every day. Listed below are just a few of the larger building operations, either contemplated or only recently started.

Springfield, Mo.—C. A. Dieter Construction Co., general contractors, will erect an eight-story apartment house here, to cost $500,000.

Jamestown, N. Y.—Winston Bros. Construction Co., of Minneapolis, Minn., has been awarded the general contract on the new passenger station here for the Erie Railroad, to cost $265,000.

New York City—The Hegeman Harris Company has received the general contract for a $170,000 residence, at 117-119 East 70th street.

Hammond, Ind.—Louis Padorr & Son, general contractors of Chicago, have been awarded the general contract on a $150,000 store and office building, at State street and Hohman avenue, Hammond.

Syracuse, N. Y.—Contract for construction of the new $200,000 garage of the Syracuse Lighting Co. has been awarded the Dawson Bros. Construction Co., of this city.

Nassau, N. Y.—A $750,000 contract for the construction of eighteen new buildings at Mitchell Field has been awarded to J. A. Moraw and Owen Co., of Chicago, Ill. Work will start within 60 days.

Madison, Wis.—The United States Department of Agriculture has awarded the contract for construction of a new building for the forest products laboratory here. It is the principal award under a $900,000 appropriation to provide the laboratory with adequate quarters.

St. Louis, Mo.—The Humes-Deal Co. has the general contract on the $100,000 addition to the Christian Board of Publication building, here.

Hempstead, L. I.—Plans for a ninety-six family apartment house, to be built here by the Excelsior Lumber Co., of Roosevelt, have been filed. The project will cost about $250,000.

Kansas City, Mo.—The New York Life building is to be reconditioned, at a cost of $200,000.

St. Paul, Minn.—Work will start about October 1 on the new $2,100,000 postoffice building at Third and Jackson streets. Lambert Bassindale, 485 Endicott building, St. Paul, and Holabird & Root, 104 South Michigan avenue, Chicago, Ill., are the architects.

Grand Forks, N. D.—Bids are being received for the construction of a junior high school to cost $275,000. Theo. B. Wells, 419 First National Bank building, Grand Forks, is the architect.

Minneapolis, Minn.—The State of Minnesota in conjunction with the City of Minneapolis, is having sketches prepared for a new armory building at Kenwood parkway and Lyndale avenue South, to be 260 x 480 ft., and to cost $1,000,000. Work will start next winter.

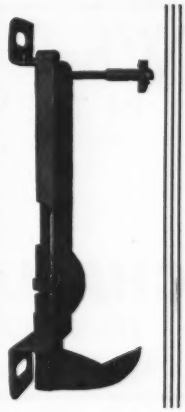
Minneapolis, Minn.—Bids will be taken early in October for the construction of a two story sisters' home for the St. Cyril and Methodius Parish, at 13th avenue NE and Second street, to cost $250,000. William K. Macomber, Inc., 107 SE Fourth street, is the architect.

Springfield, Mass.—The City Library Association has taken bids for the construction of the Gray Museum at State and Chestnut streets, to cost $350,000, and an addition to the Natural History Museum to cost $175,000. A. M. Githens & E. L. Tilton, 429 Lexington avenue, New York, are co-architects on these projects.

MOORE'S
FOR EVERY
RADIATOR

No matter what the type or size of radiator, there is a Moore Hanger especially designed to place it quickly and permanently in the correct position. Order Moore Hangers from your jobber.

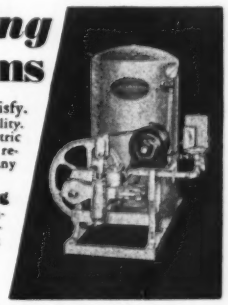
CARTY & MOORE ENG. CO.
(Incorporated)
611 W. Larned St. Detroit, Mich.



Quick Selling
Water Systems

Hoosier Systems both sell and satisfy. Famous for their sturdiness and dependability. Complete line includes wide range of electric or gasoline powered units to meet any requirement. Shallow well or deep well. Many exclusive features at no greater cost.

Write for Catalog
Complete catalog and interesting dealer proposition mailed on request without obligation.



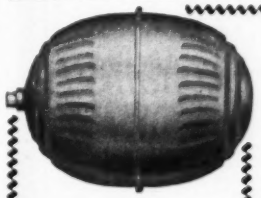
FLINT & WALLING MFG. CO.
76 OAK STREET, KENDALLVILLE, IND.

OVERTON
Roof
Flashings

Your jobber has Overton Roof Flashing or can get immediate delivery.

Overton Roof Flashing is the kind of flashing you've been looking for—the kind that's absolutely leak-proof and goes onto a roof the easiest way possible. Order Overton from your jobber. Use them.

Butler Mfg. Co.
Minneapolis Minn.



Reichert Federal Floats

BUILT FOR SERVICE

Factories, schools, public buildings, hotels, etc. are notoriously hard on tank trimmings but when a Federal Float goes on the job, trouble and complaints stop. They're built for service. Install them.

From Your Jobber

THE REICHERT FLOAT & MFG. CO.
2238 Smead Ave., Toledo, Ohio

Whatever You Need
IN THE WAY OF NIPPLES—

WROUGHT IRON, STEEL, BRASS or COPPER, whatever your need for nipples it will be satisfied by the CHALLENGE LINE.

And remember, EVERY CHALLENGE BRAND NIPPLE IS CLEAN THREADED, OF THE PROPER LENGTH AND COATED WITH RUST-RESISTING OIL.

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FRICK-REID SUPPLY CORPORATION
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PIPE CUTTERS
300% More Cuts—
Clean, practically no Burr
Now Made With
SOLID HUB
The RIDGID Thin Blue Steel Blade is now made with a solid hub — fits any RIDGID Type Cutter — Steel reinforced cutter housing guaranteed not to break or warp. See it at your Jobber!
THE RIDGE TOOL CO.
ELYRIA, OHIO

Bell and Spigot Pipe and Fittings from 4" to 48."
Cast Iron Flanged Pipe from 3" to 84".
Cast Iron Flanged Fittings from 1" to 84".
Cast Iron Flanges from 1" to 84".
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Peoples Gas Bldg. Chicago, Ill.
50 Church St. New York, N. Y.

Safety, Economy!
For any gas fired water heater, furnace or boiler, the Barber Gas Pressure Regulator provides maximum safety and new economy.
Small, accurate, dependable. Made of bronze for body, brass working parts. A precision device in every fine particular. Write to us today for details.
Made in ¼", ⅜", ½", ¾", 1", 1¼", 1½" and 2" sizes
The Barber Gas Burner Co.
3702-4 Superior Avenue
CLEVELAND . . . OHIO

Business Changes by Contractors

Seaside, Ore.—H. F. Donnerberg has purchased the plumbing and heating business of the late Thomas A. McKay.

Olympia, Wash.—E. W. Hursey has sold his interest in the plumbing and heating firm of Hursey-Whitte Co., 408 East 4th street, to A. M. Whitte.

Tucson, Ariz.—The Colorado Plumbing & Heating Co., of which Carl E. Molling is proprietor, has moved from 2530 North Seventh avenue to 427 East Ninth street.

Hubbard, Ia.—John Hoff, of Clarion, Iowa, has bought the plumbing and heating business of F. A. Waterman, in this city.

Dubuque, Ia.—George I. Beaves has become associated with A. L. Hammel, plumbing and heating contractor, the new firm to be known as Hammel and Beaves.

Bridgeport, Conn.—Allen W. Morrison, plumbing and heating contractor, has recently established his office and shop at 2160 Barnum avenue.

New Contractors and Incorporations

Waterloo, Ia.—The Stebbins Plumbing Service, Inc., has been incorporated with a capital stock of $10,000. Harry and J. H. Stebbins are the incorporators.

Caldwell, Ida.—The Economy Plumbing & Heating Shop has been opened here by Floyd Robertson and M. J. Baremond.

Shelton, Wash.—The Modern Plumbing & Heating Co. has engaged in the plumbing and heating business.

Brooklyn, N. Y.—The Straus Plumbing Corp. has been chartered, with a capital of $20,000, to establish and operate a plumbing engineering and contracting business. The new firm is represented by P. C. Giambalyo, 205 Wilson avenue.

Washington, D. C.—The Thompson Plumbing and Heating Company, Inc., has been organized and incorporated, with a capital of $10,000, to establish and operate a general plumbing and heating engineering and contracting

Top row, left to right: E. F. Judge, Scranton; Ray Kennedy, Oliphant; J. T. Decker, Scranton; James F. Arthur, Dickson. Bottom row: Mrs. and Mr. William Wentzel and Mrs. and Mr. Charles Wachter, all of Reading. Photos taken at the annual convention of the Pennsylvania State Association of Master Plumbers, held recently at Allentown

When president meets president. Walter J. Kohler, president of Kohler Co., here is shown greeting and congratulating P. W. Donoghue of Boston, president of the National Association of Master Plumbers, when members of that organization visited Kohler Village on a post convention tour. Left to right: Herbert V. Kohler, executive vice president of the company; Walter J. Kohler; P. W. Donoghue, and O. A. Kroos, secretary-treasurer of the company

business. The new firm is represented by the Capital Trust Co., Wilmington, Del.

Shelton, Wash.—The Modern Plumbing & Heating Co. has engaged in business in the Munson building, under the management of John Wenz.

Los Angeles, Calif.—The Security Plumbing Co. has engaged in the plumbing and heating contracting business at 2026 East Seventh street, under the management of Edward A. Sendy.

Detroit, Mich.—Doetsch Brothers, 21 Vernor Highway, East, have incorporated their plumbing and heating business under the name of Doetsch Brothers Plumbing & Heating Co., with a capital stock of $3,000, all subscribed and paid in.

Asbury Park, N. J.—Max Shapiro and associates have organized and incorporated the firm of Max Shapiro and Sons, Inc., with a capital of $10,000, to establish and operate a plumbing engineering and contracting business. The new concern is represented by A. Lawrence Plager, Long Branch, N. J.

Bayonne, N. J.—The U. S. Plumbing and Heating Corporation has been organized and incorporated, with a capital of 100 shares of no par common stock, to establish and operate a plumbing and heating engineering and contracting business. Morris Shapiro, attorney, represents the new firm.

Hempstead, N. Y.—With a capital of $5,000, the Hempstead Appliance Company has been organized and incorporated. It is planned to establish and operate a heating, engineering and contracting business. J. H. Schulze, local attorney, represents the new concern.

Emmetsburg, Ia.—Robinson Bros., of Des Moines, have opened a plumbing and heating contracting business here.

Left to right: Herbert Jacobs and Leo Sherman, president, both of Vinco Co., Inc., New York City; H. W. Hochuli, Richardson & Boynton Co., New York City; and Richard Wolff, New York City. Photos taken at the annual convention of the Heating and Piping Contractors National Association, held recently at Louisville

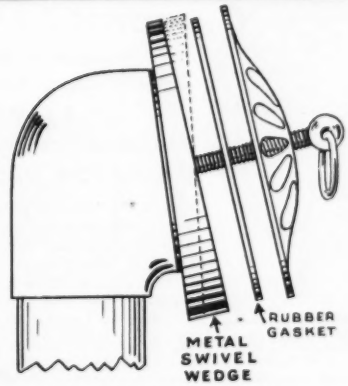
ALBERENE'S Offering for the Modern Home

44" x 24" x 16"

WASHTRAY

Large Inside Capacity
Weighs Less
Costs Less

Alberene Stone Company
153 West 23rd Street
NEW YORK



ADJUSTABLE ANGLE OVERFLOW

THE M. S. LITTLE MANUFACTURING COMPANY

NEW metal swivel wedge is attached to overflow elbow. Adjustable to any tub angle. No loose parts.

When ordering specify the LITTLE adjustable Connected Waste and Overflow.

THE M. S. LITTLE MFG. COMPANY
Hartford ◆ Conn.

INSTALL THE
REPUBLIC
INTEGRAL STOP VALVE
FOR
GREATER CONVENIENCE
The
REPUBLIC BRASS COMPANY
1623 EAST 45TH STREET CLEVELAND, OHIO

36% MATERIAL | 60% LABOR | 4% PROFIT
40% | 51% | 9%

How do You Spend Yours?

TWO contractors were handed $100 each to install valves on two identical jobs. Any remaining surplus would be theirs.
One decided to save money on materials. So he spent $36 for valves which cost him $60 to install. This left him a profit of $4.
The other decided that good materials would cost less to install so he spent $40 for O-B valves and they cost only $51 to install. This left him a profit of $9. How do you spend yours?
Ohio Brass valves are so designed and machined as to give "an extra profit in the make-up".

Ohio Brass Co.
1189-V Mansfield, Ohio

FULTON Sylphon TEMPERATURE CONTROL

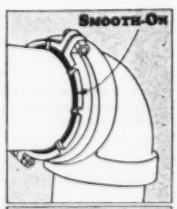
PROFITS « « in Automatic Room Temperature Control with SYLPHON THERMOSTATIC RADIATOR VALVES

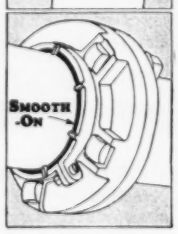
Replacing ordinary radiator valves, they regulate room warmth by regulating steam flow to each radiator. Rooms never get too hot or too cold. Save fuel. Real profits in sale and installation. Write for Bulletin SD-250.

FULTON SYLPHON CO.
KNOXVILLE. TENN., U.S.A.

Stop pipe thread leaks with SMOOTH-ON No. 1 in a
SMOOTH-ON CLAMP
Sizes for 1-in. to 12-in. pipe

QUICK, easy, cheap and dependable. Holds for the life of the line—steam, hot or cold water, gas etc., any pressure, any temperature, iron, brass, or copper pipe. No interference with bolt heads or nuts of flanged joints. Get Smooth-On Clamps and Smooth-On No. 1 from nearest supply house or from us.





Write for the free Smooth-On Handbook.
SMOOTH-ON MFG. CO.
Dept. 12, 574 Communipaw Ave.
Jersey City, N. J.

Pipe —— Lines
Connected by LYT

"Two can live," says Printer's Ink Monthly, "as cheaply as one can play golf."

And from the Passing Show we cull this one: "A man usually enters a speakeasy optimistically—and comes out misty optically."

It is also said that the woman with a good-looking husband has a life-long job of looking good.

Now that the "roll your own cigarette" movement is under way, we may expect to see the drug store cow-boys rolling them with one hand while spinning on the stools.

"Business," says the expert statisticians, "is bumping along on the bottom." And the result is a bumper crop—of unemployed.

"Every man has his price"—goes the old, cynical saw. And how every woman would like to have her figure!

And now the absent-minded professor has no longer an excuse to wind up the cat since there is an electric clock in the house.

"20° cooler inside," will read future summer invitations to air-conditioned homes—and a television set will complete the appeal.

The great problem facing the young man of today is this—can he, at one and the same time, take good care of his Adam's apple, and yet "keep kissable?"

Among the blessings of civilization is to be numbered the telephone. It enables a man to tell his wife why he will be late, instead of why he is late.

A great many men would prefer to see "free lunch" signs over various soft drink parlors, to the "free wheeling" signs over auto sales rooms.

An Old One—with a New Twist

Two men stood together at a party. They had met for the first time, and one of them sought to make conversation.

Pointing across the room he said: "Can you imagine why any man would bring any woman as homely as that to a party like this?"

"Sure I can," said the other. "She's my wife, and she's so homely that I brought her along so I wouldn't have to kiss her good-bye!"

PRINTER'S INK.

TOO POOR

Two tramps met at the end of a long and successful day's begging. Both were tired and hungry.

"Didn't you make anything, Bill?" inquired one. "What about that house I saw you looking at—the big one with the open window?"

"Didn't trouble to ask," was the reply. "I looked in the window and saw two girls playing on one piano, so I guessed they was too poor for me to worry!"

LISTEN!

The careful driver approached a railroad crossing. He stopped, looked and listened. All he heard was the car behind him crashing into his gas tank.

L Y T.

Bath a Day Movement

177

In that number of cities and towns, "The Story of the Bath" has been used in the schools. Many more teachers want copies — perhaps in your city.

WITH the re-opening of the school year comes again the problem of supplying teachers with educational material. As usual, "Domestic Engineering" is receiving requests from teachers for copies of "The Story of the Bath" for use in health and hygiene classes.

We send a complimentary copy to the teacher making the request, and then write to the local association, where there is one, or to the state association. Officials of these groups should have a supply of copies of "The Story of the Bath" on hand to take care of these requests.

And meanwhile the use of the Twenty Minute Program for the use of master plumbers before meetings of the Rotary, Kiwanis, Lions and other civic clubs, grows. Contractors and wholesale executives are writing us from all over the country asking for a copy of the program—furnished without any charge—for this purpose.

Ask for a copy—and for a copy of "The Story of the Bath."

Little Sentences That Sell

Write one of these BLACK BOARD EPIGRAMS on your window or bulletin board each day. Many master plumbers and heating contractors find them real business getters.

A small tear relieves a great sorrow.

* * *

Sensible men are always deaf to unjust criticism.

* * *

Great enterprises often result from small beginnings.

* * *

Knowledge talks lowly.

* * *

If one will not, the other cannot quarrel.

* * *

The chiropodist believes in tight shoes—for others.

* * *

Every man has an idea that others think him important.

* * *

The crookedness of the river is but a matter of course.

* * *

As a moss gatherer the rolling joke heads the list.

* * *

The original bunko man probably came over in the steerage.

* * *

Cyclones will never break into the "popular air" class.

* * *

The painstaking man doesn't always suffer the most pain.

No. 2 Vacuum Valve

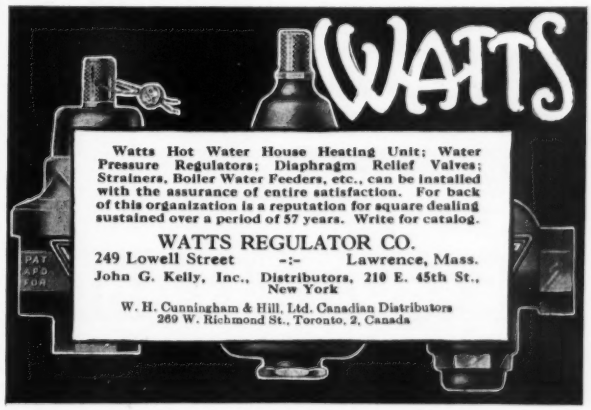
MODERN HEATING EQUIPMENT

for all types of Buildings

HOFFMAN VALVES
HOFFMAN CONTROLLED HEAT
HOFFMAN-ECONOMY PUMPS

Write for Catalog

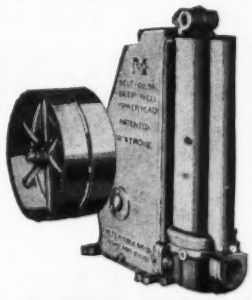
HOFFMAN SPECIALTY CO., INC.
DEPT. RX-72 WATERBURY, CONN.



Watts Hot Water House Heating Unit; Water Pressure Regulators; Diaphragm Relief Valves; Strainers, Boiler Water Feeders, etc., can be installed with the assurance of entire satisfaction. For back of this organization is a reputation for square dealing sustained over a period of 57 years. Write for catalog.

WATTS REGULATOR CO.
249 Lowell Street -:- Lawrence, Mass.
John G. Kelly, Inc., Distributors, 210 E. 45th St., New York
W. H. Cunningham & Hill, Ltd. Canadian Distributors 269 W. Richmond St., Toronto, 2, Canada

MYERS SELF-OILING POWER PUMPS



Reach out for new pump and water system business with the Myers line of Power Pumps and Water Systems. 200 to 10,000 gallons of water per hour. Unquestionably, this wide capacity range is a sound business asset for those who are serving their trade with power water facilities to meet individual customer needs. Write or wire.

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Pumps—Water Systems—Hay Tools—Door Hangers

BARRETT
PLUMBER'S *Rough* BRASS *Goods*

The Standard — *Compression Stops* — *Compression Stops and Wastes* — *Ground Key Line* — *Waterworks Brass Goods* — *of Comparison*

THE CLEVELAND BRASS MANUFACTURING COMPANY
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The myriad lights of the world's motor car center gleaming against a somber background that reaches far into Canada.....

High over Detroit in a pleasant cozy room where efficient, unobtrusive attendants grant your every wish. You are in the Detroit-Leland Hotel with its unequalled splendor of interior, its famous dining room and coffee shop with electrically cooled and purified air, and its convenient location in the very center of things..

800 ROOMS
all outside, with bath.. every conceivable comfort, an address of distinction, all at ordinary hotel cost

$2.50 and $3.50

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"Across from the Capitol"

TOM A SABREY, Manager

655 COMFORTABLE ROOMS
ALL WITH BATH
GARAGE FACILITIES • RATES STARTING AT $2.50

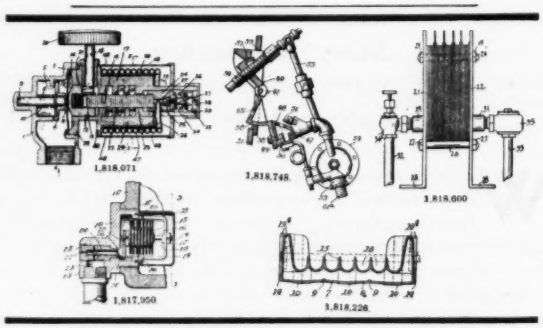
PATENTS

Heating Department

1,818,071. Thermostatic Control Device for Valves. James J. Lawler, Mount Vernon, N. Y., assignor to Direct Control Valve Company, Chicago, Ill., a Corporation of Delaware.

1,818,748. Oil Burner. William H. Pascoe, Chicago, Ill.

1,818,600. Radiator. Benjamin Blackmore, Cuyahoga Falls, Ohio.



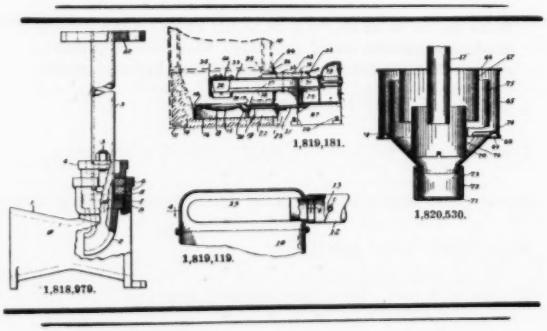
1,817,950. Vapor Trap. Leslie Stadelhofer, Newark, N. J.

1,818,226. Radiator. Thomas E. Landvoigt, Westmont, Pa., assignor to National Radiator Corporation, Johnstown, Pa., a Corporation of Delaware.

1,818,979. Circulating Steam Jet Construction. Oystein Jacobsen, Dayton, Ohio, assignor to The Duriron Company, Inc., a corporation of New York.

1,819,181. Oil Heater. Paul M. Klein, Cedarhurst, N. Y.

1,819,119. Smoke Consumer. John Pykosz, Chicago, Ill.

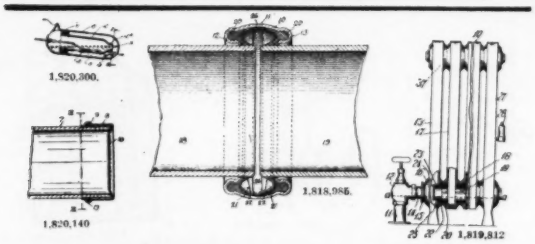


1,820,530. Air Cleaner. Henry R. Davies, Valley Cottage, N. Y., assignor, by mesne assignments, to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Delaware.

1,820,300. Mercury Switch. Paul K. Cramblet, Milwaukee, Wis., assignor, by mesne assignments, to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware.

1,820,140. Pipe Thread Protector. Percy E. Hunter, Pittsburgh, Pa.

1,818,985. Pipe Coupling. Howard J. Burnish, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York.



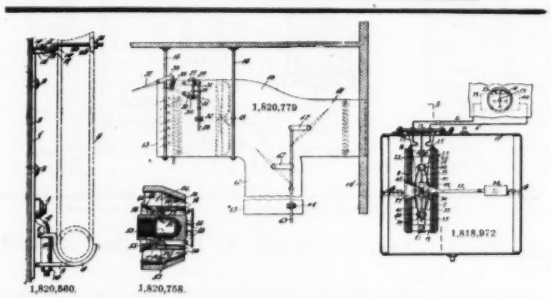
1,819,812. Radiator. Frank J. Douglass, Chicago, Ill., assignor to Eloise Kastler Douglass, Chicago, Ill.

1,819,893. Heat Insulation Material and Composition. Harold W. Greider, Plymouth Meeting, Pa., assignor to The Philip Carey Manufacturing Company, a corporation of Ohio. Heat insulation material employing in its composition magnesium hydroxide precipitated from basic magnesium carbonate solution.

1,820,560. Wall Radiator Support. Anthony E. Davis, Philadelphia, Pa.

1,820,758. Oil Burner. Herman Miller, Chicago, Ill., assignor to Burrell Engineering & Construction Company, Chicago, Ill., a corporation of Illinois.

1,820,779. Unit Heater. Clifford C. Carson, Chicago, Ill.



1,818,972. Liquid Level Indicator. Clarence A. de Giers, New York, N. Y., assignor, by mesne assignments, to The Liquidometer Corporation, Wilmington, Del., a corporation of Delaware.

Plumbing Department

1,817,258. Stop-Cock. Karl Klinger, Gumpoldskirchen, Austria.

1,817,376. Drain Strainer. Angel Izquierdo, New Orleans, La.

BY SPECIFYING Heggie-Simplex Steel Boilers, architects and building committees for many important structures have endorsed what Heggie's 39 years have accomplished—the most modern of heating boilers, in which scientific design combines every essential with preeminent quality.

HEGGIE-SIMPLEX BOILER COMPANY
JOLIET, ILLINOIS
Representatives in Principal Cities

STEEL PARTITIONS
for Toilets, Showers, Dressing Rooms, Urinals
Write for our catalog

THE SANYMETAL PRODUCTS CO., 1723 Urbana Road, Cleveland, Ohio
Sanymetal TOILET PARTITIONS
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They have to be GOOD

STASCO
EMPIRE SEAMLESS SEATS
are guaranteed for 5 years to give absolute satisfaction

—It is the quality built in our Empire Seamless Seats that makes it possible for us to guarantee them without fear of the consequences.

—when you buy a STASCO Empire Seat you get an all-hardwood core plus the superior STASCO finish which is pure pyroxylin dissolved and reapplied to make it seamless and more sanitary.

STANDARD TANK & SEAT CO.
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PORCELAIN COCK HOLE COVERS

WITH OR WITHOUT CHAIN STAY

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The longer lasting iron pipe for use where conditions of service are severe.

Write for book "Pipe for Permanence"

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GENERAL OFFICES YOUNGSTOWN, OHIO

SINCE 1805
Paragon SELF-CLOSING FAUCETS with renewable seats

Fig. D 200-A

SMOOTH ball-bearing action. Patented Samson Lock, which makes Paragon handles easiest to adjust. Longer wear—less repair. Choice of handles. Write for folder.

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PARAGON DIVISION CLEVELAND O.

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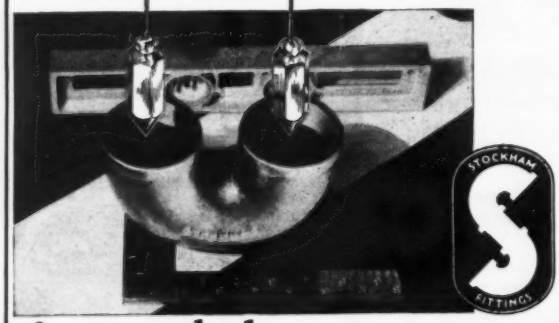
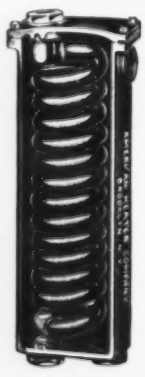


for straight lines and strength



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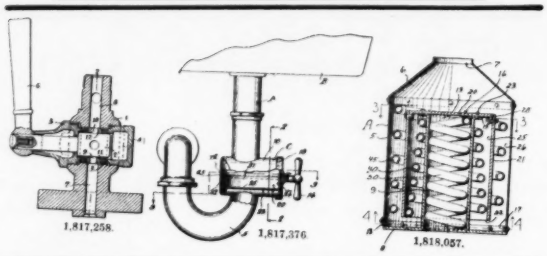
And where the demand for economy is great. Write the American Heater Co. today for complete information on its water heating equipment.

American Heater Co.
60 Fulton St. Brooklyn, N. Y.

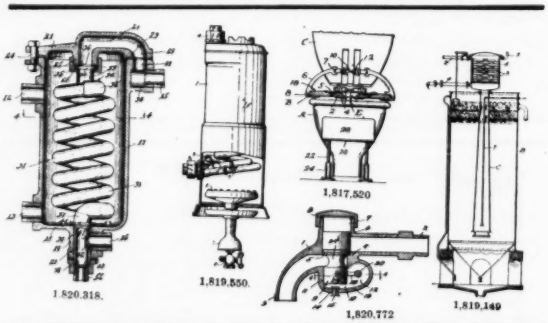


1,818,057. Water Heater. Peter H. Ferrier, Jr., Brookfield, Ill.

1,820,318. Water Heater. Harry E. Paget, Chicago, Ill.

1,819,550. Water Heater Circulating Coil. Arthur Friedman, Cleveland, Ohio, assignor to The Cleveland Heater Company, Cleveland, Ohio, a corporation of Ohio.

1,817,520. Toilet Seat. Campbell A. Meath, Neodesha, Kans.



1,820,772. Faucet. George A. Blake, New Bedford, Mass.

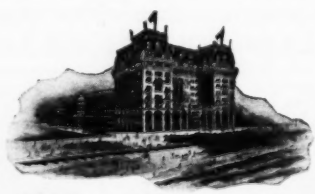
1,819,149. Hot Water Treatment. Peter M. Contant, New York, N. Y., assignor to Neckar Water Softener Corporation, New York, N. Y., a corporation of New York.

◆

Minneapolis, Minn.—The board of education has taken bids for the construction of the first unit of the vocational school. The first unit is to cost about $400,000.

Minneapolis, Minn.—Work is expected to start about October 1 on the new $3,500,000 postoffice building at Nicollet avenue and High street. Magney & Tusler, Inc., 104 South Ninth street, Minneapolis, are the architects.

Sensible Rates



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Modern in construction, luxurious in appointments and convenient to all piers and amusements.

"Domestic Engineering" Quarterly Index

Vol. CXXXVI—July 11 to September 19, 1931

This is the eighty-seventh index of "Domestic Engineering," an index for each quarter appearing at the end of that quarter. We ask our readers to note the value of this index for reference, calling special attention to the separate classifications of the departments of "Retail Advertising Service," and "Merchandising Articles," both of which contain many valuable ideas along the line of trade extension.

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One inch $4.00. Cash must accompany order. Copy should reach us eight days in advance of publication date.

Situations Open

DISTRIBUTORS WANTED — MANUfacturer with twenty years' experience building coal stokers for heating and power boilers is now widening distributor organization and has openings in several important localities. Address Key 670, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

MANUFACTURER OF HEATING APparatus will require sales representative for 1932, Scranton, Pa., and vicinity. One acquainted with local trade and jobbers preferred. State age, experience and salary expected. All applications confidential. Address Key 665, "Domestic Engineering," 1900 Prairie Ave., Chicago.

WE ARE DESIROUS OF SECURING experienced representation for a line of combination sink faucets in the following territories: New England, Philadelphia, and Pennsylvania state, and New Orleans. Address Key 668, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

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WONDERFUL MONEY-MAKING EXclusive or side line proposition for salesmen calling on plumbing dealers. Write us today. Address Koil-Les Heater Company, Geneva, Illinois.

SALESMEN, EXCLUSIVE OR SIDE line, wanted by manufacturer of full plumbers' chemical line. Address Key 662, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

Situations Wanted

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MANUFACTURERS' AGENT IN CANada, desirous of securing exclusive agency for Canada of heating products manufactured in United States. Address Key 667, "Domestic Engineering," 1900 Prairie Avenue. Chicago, Illinois.

WANTED — PLUMBING AND HEATing material and specialties to sell direct to Plumbing and Heating contractors and jobbers in Northern Illinois and Indiana. Straight commission. Address Key 664, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

For Sale

FOR SALE

Wholesale and Retail Plumbing Business, established 25 years. Did over $240,000 worth of business in 1930. Stock estimated $100,000. Located in central Oklahoma. Owners in ill health. Address Key 659, "Domestic Engineering," 1900 Prairie Avenue, Chicago.

Government Proposals

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., August 28, 1931. Sealed bids, in duplicate, subject to the conditions contained herein will be publicly opened in this office at 2 p. m., Sept. 25, 1931, for furnishing all labor and materials and performing all work for new brass waterpiping, repairs to plumbing, etc., at the U. S. post office, Denison, Texas. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Use this page to get what you want

If you are looking for competent employes; or if you contemplate a change in position, have a patent for sale; wish to purchase or sell a plumbing and heating business; second-hand machinery or tools; form a co-partnership, etc., your advertisement on this page will put you in touch with the people you desire to reach.

The cost of insertion is only eight cents a word and may mean many dollars to you.

Miscellaneous

PLUMBERS' BIN LABELS

$1\frac{1}{2} \times \frac{3}{4}$
RED. ELLS

Send for samples and prices of card holders, bin labels and stop valve tags, and free booklets: "How to Lay Out the Plumbing Shop" and "How to Train the Apprentice Boys." Haddon Bin Label Co., Haddon Heights, N. J.

FREE CATALOG SHOWING CONtracts, daily and weekly time tickets, estimates, job tickets, etc. All kinds of printing for plumbers. Address Vernon Co., Collingswood, New Jersey.

Books for Your Trade Library

PRACTICAL HEATING SYSTEMS— TROUBLE JOBS AND VENTILATION. By E. W. Riesbeck. The author of this book has spent several years as a consulting engineer, specializing in trouble jobs, and is generally recognized as an authority. The chapters on trouble jobs are clear and complete, telling how to locate trouble and how to correct it. There is a set of tables for estimating radiation which eliminates all figuring of exposed wall, cubical contents, etc. There is also data on pipe sizes and ventilation. Contents: How to Figure Radiation; Hot Water Heating Systems; Steam Heating Systems; The Air Line Systems-Vapor Heating Systems; Vacuum Systems; High Pressure Boilers; Heating by Gas and Oil; Painting Radiators; Indirect Heating; Combining Heating Systems; Stokers; Radiator Grills; Pipe Coils and Pipe Returns; Electric Heating Boilers; Summer Care of Heating Plants; Steam Traps; Greenhouse Heating; Range Boiler Connections; Trouble Jobs; Thawing Underground Pipes; Pipe Coils, Ventilation. Has 277 pages, size 5x7½, and is bound in cloth. Price postpaid $4.00.

PLUMBING QUESTIONS AND ANSWERS. By Joseph E. Taggart. Presents in question and answer form the fundamentals upon which the entire plumbing installation of New York City rests. Other sections cover tests for anti-siphon traps, installation of water supply and the standpipe-fireline rules. There's also an appendix of useful tables and measures. Has 164 pages, 5x7, bound in fabrikoid. Price postpaid $2.00.

STANDARD PRACTICAL PLUMBING. By R. M. Starbuck. An exhaustive treatise on all branches of plumbing construction. It describes the latest and best plumbing practice, special attention being given to the skill required of the plumber, and to the theory underlying plumbing devices and operations. Contents: Tools, Wiping Solder, Joint Wiping, Lead Work, Traps, Siphonage, Venting, Sewer Connections, The House Drain, Soil Piping, Fresh-Air Inlet, Floor Drains, Rain Leaders, etc.; Fixture Wastes, Water-Closets, Ventilation, Connections, Plumbing for Dwellings, Plumbing for Schools, Hotels, etc.; Country Plumbing, Filtration, Hot and Cold Water Supply, Range Boilers, Circulating Pipes, Range Boiler Work, Hot Water Supply for Apartment Buildings, etc.; The Water Lift, Multiple Connections, Theory for the Plumber, Drawings, Examinations for Plumbers and Fitters, Government Plumbing. Has 444 pages, 6x9, bound in cloth. Price postpaid $4.00.

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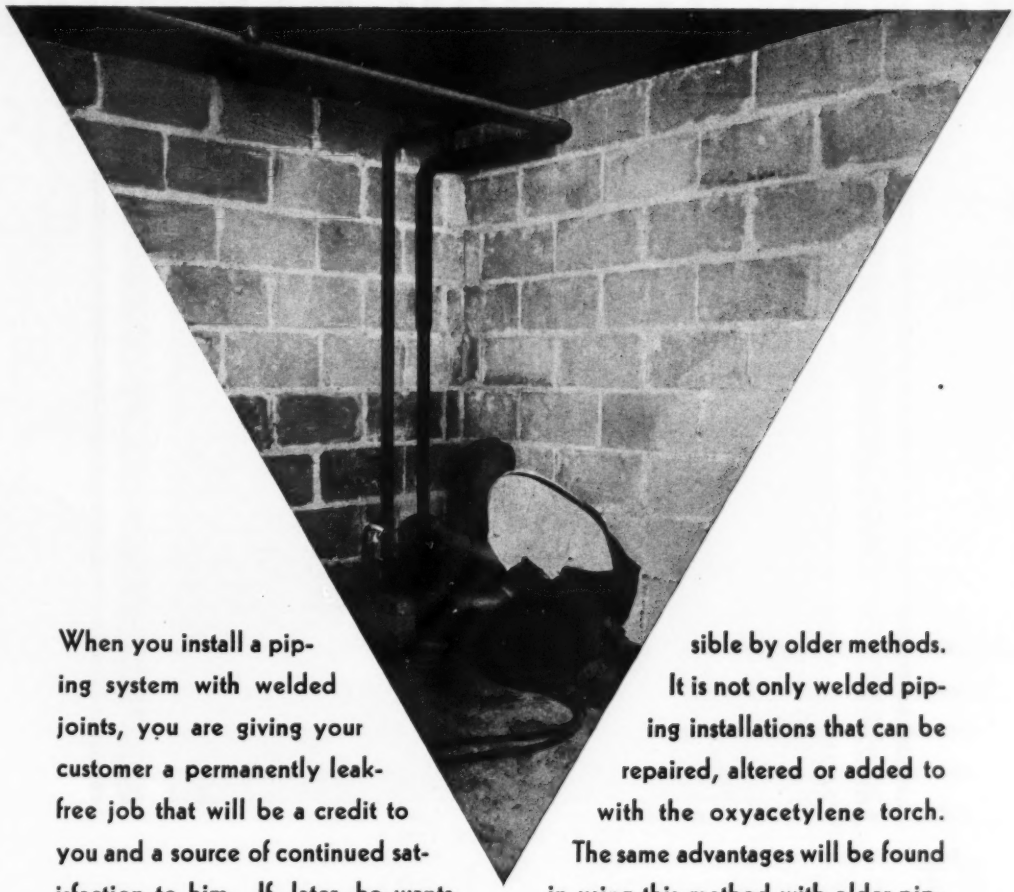
Welded Piping

Permanent Leak-free Economical



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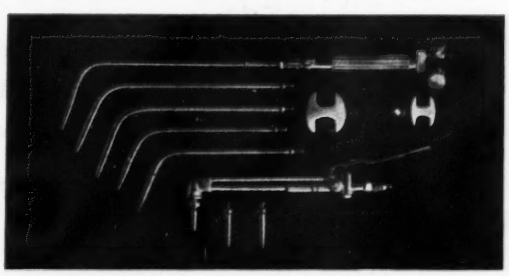

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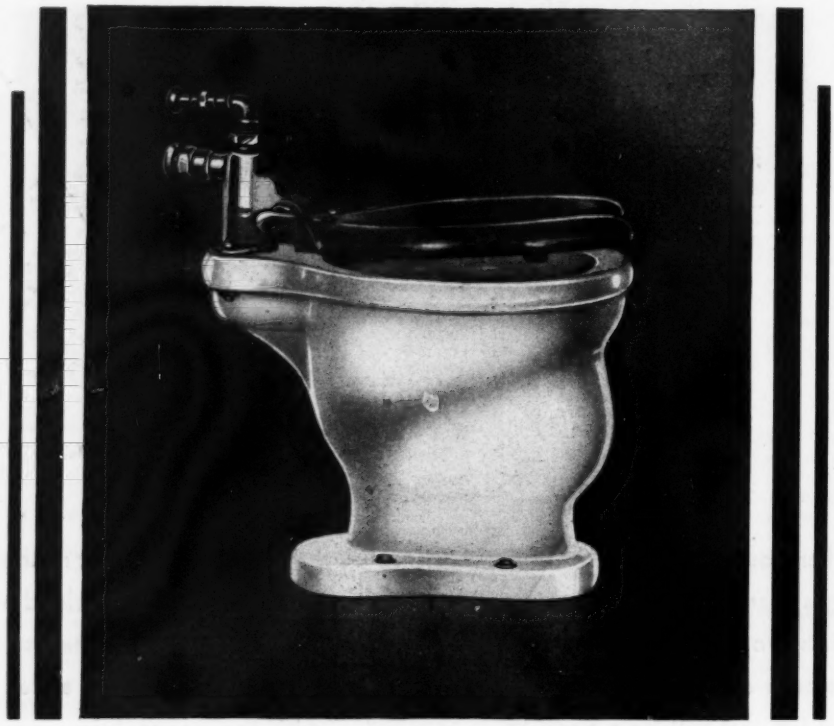

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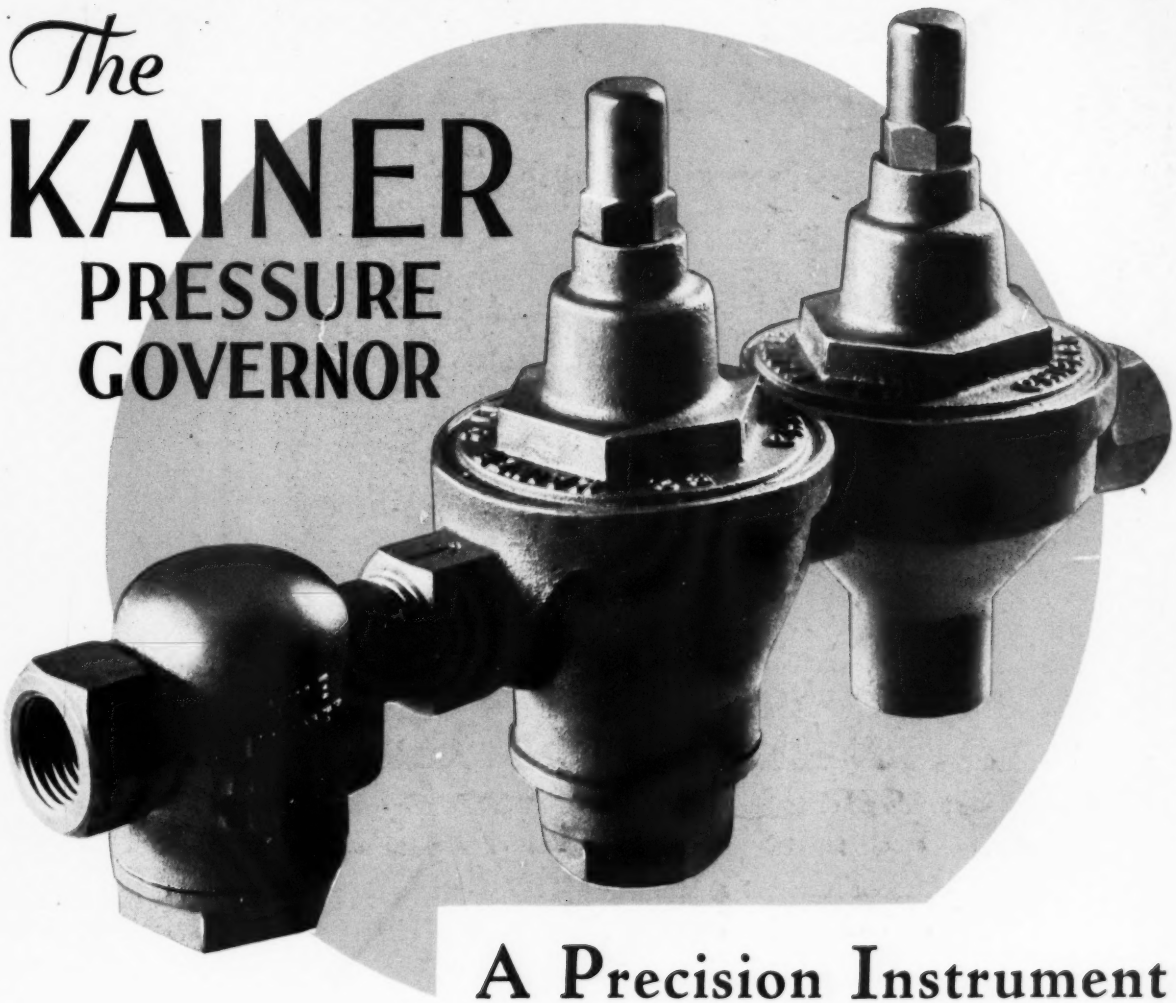

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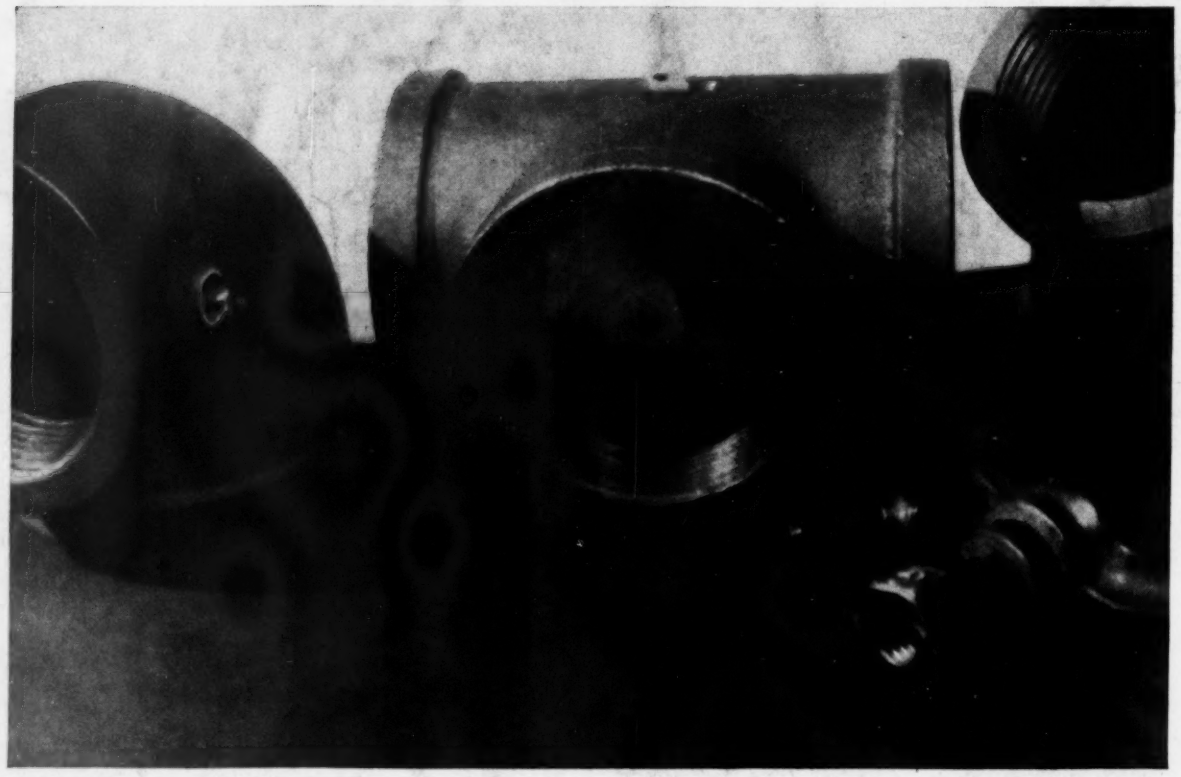

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